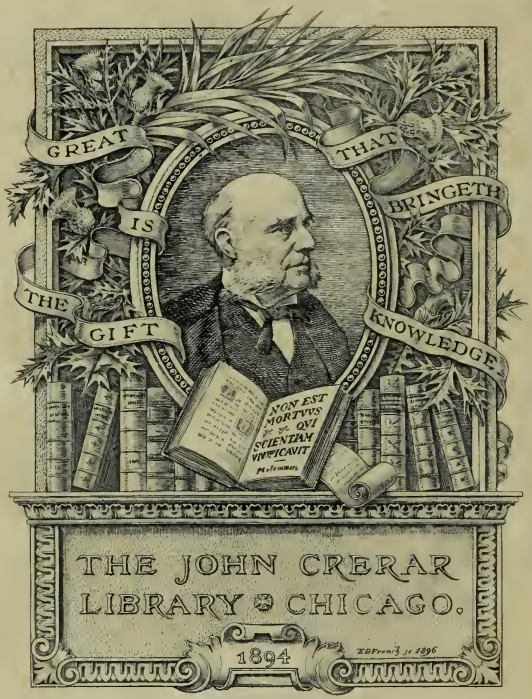

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Kansas State Agricultural College

Volume 28. Number 35

The Industrialist.

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College.

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THIRTY-NINTH ANNUAL CATALOGUE

OF THE

Officers, Students and Graduates

OF THE

KANSAS STATE

Agricultural College

MANHATTAN,

1901-'02.

MANHATTAN, KANSAS.

BARNS.

DOMESTIC SCIENCE LABORATORY.

Terms and Vacations.

Fall Term, 1902, Thirteen Weeks.

WEDNESDAY, SEPTEMBER 17.—Examination for admission, at nine A. M.
THURSDAY, SEPTEMBER 18.—College year begins.
TUESDAY, SEPTEMBER 30.—Short course in domestic science begins.
SATURDAY, NOVEMBER 1.—Mid-term examination.
THURSDAY AND FRIDAY, DECEMBER 18, 19.—Examination at close of term.

Winter Term, 1903, Twelve Weeks.

MONDAY, JANUARY 5.—Examination for admission, at nine A. M.
TUESDAY, JANUARY 6.—Winter term begins.
TUESDAY, JANUARY 6.—Short courses in agriculture, horticulture and dairying begin.
SATURDAY, JANUARY 24.—Annual inter-society oratorical contest.
SATURDAY, FEBRUARY 14.—Mid-term examination.
THURSDAY AND FRIDAY, MARCH 26, 27.—Examination at close of term.

Spring Term, 1903, Eleven Weeks.

MONDAY, MARCH 30.—Examination for admission, at nine A. M.
TUESDAY, MARCH 31.—Spring term begins.
SATURDAY, MAY 9.—Mid-term examination.
TUESDAY AND WEDNESDAY, JUNE 16, 17.—Examination at close of year.
JUNE 14 TO 18.—Exercises of commencement week.
THURSDAY JUNE 18, at ten A. M.—Commencement.
JUNE 19 TO SEPTEMBER 16.—Summer vacation.

Fall Term, 1903.

WEDNESDAY, SEPTEMBER 16.—Examination for admission, at nine A. M.
THURSDAY, SEPTEMBER 17.—College year begins.

A61489

Board of Regents.

HON. J. S. McDOWELL (1905),* *President*,
Smith Center, Smith county.

HON. F. D. COBURN (1905), *Vice-president*,
Kansas City, Wyandotte county.

HON. E. T. FAIRCHILD (1903), *Treasurer*,
Ellsworth, Ellsworth county.

HON. WM. HUNTER (1903), *Loan Commissioner*,
Blue Rapids, Marshall county.

HON. J. M. SATTERTHWAITE (1903),
Douglass, Butler county.

HON. S. J. STEWART (1905),
Humboldt, Allen county.

PRES. E. R. NICHOLS (*ex officio*), *Secretary*,
Manhattan, Riley county.

MISS LORENA E. CLEMONS, *Assistant Secretary*,
Manhattan.

*Term expires.

Board of Instruction.

FACULTY.

ERNEST R. NICHOLS, D. B. (Iowa State Normal School), A. M. (State University of Iowa),
President.

JOHN D. WALTERS, M. S. (Kansas State Agricultural College),
Professor of Industrial Art and Designing.

ALEXANDER B. BROWN (Boston Music School), A. M. (Olivet),
Professor of Music.

JULIUS T. WILLARD, M. S. (Kansas State Agricultural College),
Professor of Chemistry.

HENRY M. COTTRELL, M. S. (Kansas State Agricultural College),
Professor of Agriculture, Superintendent of Farm.

EDWIN A. POPENOE, A. M. (Washburn),
Professor of Entomology and Zoology, Curator of the Museum.

FRANK C. LOCKWOOD,[a] Ph. D. (Northwestern),
Professor of English.

BENJAMIN L. REMICK, Ph. M. (Cornell College),
Professor of Mathematics.

BENJAMIN F. EYER,[b]
Professor of Physics and Electrical Engineering.

CHARLES E. GOODELL, A. M. (Franklin),
Professor of History and Economics.

HERBERT F. ROBERTS, A. B. (University of Kansas), M. S. (Kansas State Agricultural College),
Professor of Botany.

WILLIAM ARCH McKEEVER, A. M. (University of Kansas),
Professor of Philosophy.

Miss MARY E. BERRY (Kansas State Normal School),
Professor of English.

LEON W. HARTMAN, A. M. (Cornell University),
Professor of Physics and Electrical Engineering.

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a Absent on leave, 1901–'02, Middletown, Conn.
b Absent on leave, 1901–'02, Chicago, Ill.

WILFORD O. CLURE, B. O. (Drake University),
Professor of Oratory.

EDMUND B. McCORMICK, S. B. (Massachusetts Institute of Technology),
Professor of Mechanical Engineering, Superintendent of Shops.

DANIEL H. OTIS, M. S. (Kansas State Agricultural College),
Professor of Dairy Husbandry.

Miss EDITH A. McINTYRE (Teachers' College),
Professor of Domestic Science.

NELSON S. MAYO, M. S. (Michigan Agricultural College), D. V. S. (Chicago Veterinary College),
Professor of Veterinary Science.

ALBERT DICKENS, M. S. (Kansas State Agricultural College),
Acting Professor of Horticulture, Superintendent of Orchards and Gardens.

Miss HARRIET HOWELL (Pratt Institute),
Superintendent of Domestic Art.

JOSHUA D. RICKMAN (I. T. U.),
Superintendent of Printing.

BENJAMIN S. McFARLAND, A. M. (Miami),
Principal Preparatory Department.

Mrs. HENRIETTA W. CALVIN, B. S. (Kansas State Agricultural College),
Librarian.

Mrs. EDITH N. CLURE (Posse Gymnasium),
Director of Physical Training.

Miss Lorena E. Clemons, B. S. (Kansas State Agricultural College),
Secretary.

Assistants.

Miss JOSEPHINE C. HARPER, A. M. (Lindsborg),
Assistant Professor of Mathematics.

Miss ALICE RUPP (Indiana State Normal),
Assistant Professor of English.

GEORGE F. WEIDA, Ph. D. (Johns Hopkins),
Assistant Professor of Chemistry.

EDWIN H. WEBSTER, B. S. Ag. (Iowa State College), M. S. (Kansas State Agricultural College),
Assistant Professor of Dairy Husbandry.

CHARLES EASTMAN,
Cadet Major and Acting Commandant.

WILLIAM L. HOUSE,
Foreman of Carpenter Shop.

Miss MARGARET J. MINIS, B. S. (Kansas State Agricultural College),
Assistant Librarian.

ROBERT H. BROWN, B. M. (Kansas Conservatory of Music), B. S. (Kansas State Agricultural College),
Assistant in Music.

WM. ANDERSON, B. S. (Kansas State Agricultural College),
Assistant in Mathematics.

Miss GERTRUDE BARNES,
Assistant Librarian.

WILLIAM BAXTER,
Foreman of Greenhouse.

Miss MARY B. PRITNER, B. S. (Kansas State Agricultural College),
Assistant in Domestic Science.

WILL M. SAWDON, B. S. (Purdue),
Assistant in Mechanics.

Miss ADA RICE, B. S. (Kansas State Agricultural College),
Assistant in Preparatory Department.

LOUIS WABNITZ,
Foreman Iron Shops.

EVERED W. CURTIS (University of Wisconsin Dairy School),
Instructor in Butter-making.

ALBERT T. KINSLEY, M. S. (Kansas State Agricultural College),
Assistant in Veterinary Science.

Miss ELIZABETH J. AGNEW, B. S. (Kansas State Agricultural College),
Assistant in Domestic Science.

JESSE B. NORTON,[a] M. S. (Kansas State Agricultural College),
Assistant in Entomology.

ERNST C. GASSER,
Foreman of Blacksmith Shop.

Miss INA E. HOLROYD, B. S. (Kansas State Agricultural College), (Kansas State Normal),
Assistant in Preparatory Department.

---

a Until March 1, 1902.

Miss MARIAN F. JONES, M. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

GEO. O. GREENE, B. S. (Kansas State Agricultural College),
Assistant in Horticulture.

JOHN O. HAMILTON, B. S. (Chicago),
Assistant in Physics.

Miss HETTY G. EVANS (Massachusetts Normal Art School),
Assistant in Drawing.

VERNON M. SHOESMITH, B. S. (Michigan Agricultural College),
Assistant in Agriculture.

Miss ELEANOR HARRIS, B. M. (Chicago College of Music),
Assistant in Music.

F. CLARENCE WEBER, B. S. (Ohio State University),
Assistant in Chemistry.

WALTER E. MATHEWSON, B. S. (Kansas State Agricultural College),
Assistant in Chemistry.

Miss HELENA M. PINCOMB,[a] B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

Miss MYRTLE MATHER,
Assistant in Preparatory Department.

AMBROSE E. RIDENOUR, B. S. (Kansas State Agricultural College),
Foreman in Foundry.

WILLIAM D. CRAMER, Pd. B. (Michigan Normal College),
Assistant in Zoology.

GEO. A. DEAN,[b] B. S. (Kansas State Agricultural College),
Assistant in Entomology.

LESLIE F. PAULL,[c] A. M. (Brown),
Assistant in Botany.

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a Till January 1, 1902.
b Since March 1, 1902.
c Since April 14, 1902.

Other Officers.

JACOB LUND, M. S. (Kansas State Agricultural College),
Engineer.

Miss C. JEANETTE PERRY, B. S. (Kansas State Agricultural College),
Executive Clerk.

Miss MATILDA C. DOLL,
Stenographer and Clerk.

Miss MINERVA BLACHLY, B. S. (Kansas State Agricultural College),
Bookkeeper.

WILLIAM R. LEWIS,
Janitor.

CHARLES HUGHES,
Secretary to President.

MAIN COLLEGE BUILDING.

Experiment Station.

Council.

President NICHOLS, Chairman.

Professor WILLARD, Chemist and Director.

Professor COTTRELL, Agriculturist.

Professor POPENOE, Entomologist.

Professor ROBERTS, Botanist.

Professor OTIS, Dairy Husbandman.

Professor MAYO, Veterinarian.

Professor DICKENS, Acting Horticulturist.

Assistants.

ALBERT T. KINSLEY, Assistant in Veterinary Science.
JESSE B. NORTON,[1] Assistant in Entomology.
GEO. O. GREENE, Assistant in Horticulture.
VERNON M. SHOESMITH, Assistant in Agriculture.
F. CLARENCE WEBER, Assistant in Chemistry.
EDWIN H. WEBSTER,[2] Assistant in Dairying.
GEO. A. DEAN,[3] Assistant in Entomology.
LESLIE F. PAULL,[4] Assistant in Botany.
Miss ALICE M. MELTON, Clerk in Director's Office.

[1] Until March 1, 1902.
[2] Since October 21, 1901.
[3] Since March 1, 1902.
[4] Since April 14, 1902.

Student Assistants.

MAMIE ALEXANDER, Printing.
R. F. BOURNE, Veterinary.
MAY BOWEN, B. S., Mathematics.
R. W. DEARMOND, Horticulture.
L. A. FITZ, Botany.
G. W. GASSER, Veterinary.
C. A. GINGERY, Horticulture.
HENRIETTA HOFER, Library.
F. E. JOHNSON, Veterinary.
JESSE M. JONES, Dairying.
ANNA SMITH KINSLEY, B. S., Chemistry.
HELEN KNOSTMAN, B. S., Preparatory.
ALICE LOOMIS, Preparatory.
MADGE McKEEN, B. S., Preparatory.
RUTH MUDGE, B. S., Preparatory and Botany.
R. A. OAKLEY, Botany.
G. W. RANDALL, Foundry.
ALEXIS REED, Library.
JESSIE A. REYNOLDS, Preparatory.
J. C. RICKMAN, Printing.
FLORENCE RITCHIE, Preparatory.
E. N. RODELL, Printing.
A. H. SANDERSON, Surveying.
G. B. SCANLAND, Foundry.
CLARA SPILMAN, B. S., English.
HELEN THOMPSON, Mathematics.
C. C. WINSLER, Dairying.

ARMORY.

The College Battalion.

The following is the roster of the commissioned and non-commissioned officers of the Kansas State Agricultural College corps of cadets for 1901–'02:

CHARLES EASTMAN,
Major, and Commandant of Cadets.

STAFF.

ORRIN P. DRAKE.....First Lieutenant and Battalion Adjutant.
RICHARD F. BOURNE.....First Lieutenant and Battalion Quartermaster.
JAMES H. WHIPPLE.....Battalion Sergeant-major.
WALTER O. GRAY.....Battalion Quartermaster Sergeant.
FRANK A. BLAKSLEE.....Color Sergeant.

INFANTRY, BY COMPANIES.

RANK.	"A" company.	"B" company.	"C" company.	"D" company.
Captain.....	J. F. Ross.....	G. R. Shepherd ..	M. S. Cole.....	R. B. Mullen.
First Lieutenant...	A. H. Sanderson..	A. H. Leidigh....	H. A. Avery.....	C. W. McKeen.
Second Lieutenant,	A. M. Nash.....	D. V. Corbin.....	A. L. Hallsted....	R. W. DeArmond.
First Sergeant.....	E. C. Gardner....	T. L. Pittman....	L. C. Chase.....	T. E. Dial.
Second Sergeant...	A. D. Colliver....	V. L. Cory.....	Glen Edgerton...	Alf. Gallup.
Third Sergeant.....	C. O. Duehn.....	P. A. Cooley.....	L. C. Foster.....	W. G. Tellin.
Fourth Sergeant...	L. R. Parkerson..	P. M. Biddison...	C. J. Axtell.....	M. L. Haskell.
Fifth Sergeant.....	F. C. Romig.....	W. J. Wilkinson..	O. A. Hanson.....	H. Tracy.
First Corporal	F. L. Courter.....	W. L. Cropper....	R. Reece.....	G. H. Brown.
Second Corporal...	L. E. Klein.....	C. A. Maus.....	L. Burns	N. S. Gall.
Third Corporal.....	J. G. Chitty	R. M. McKee.....	M. S. Spencer....	A. F. Cassell.
Fourth Corporal...	J. L. Rogers.....	C. P. Blachly.....	F. E. Balmer.....	M. A. Pierce.
Fifth Corporal.....	W. B. Banning...	J. G. Savage.....	H. C. White.....	A. S. Stauffer.
Sixth Corporal.....	A. N. H. Beeman,	H. A. Smith.....	W. P. Terrell.....	C. B. Thumble.

The College Band.

The following is the roll of the College band for 1901–'02:

A. B. BROWN, DIRECTOR.

R. H. BROWN, Leader. F. W. WILSON, Drum Major.

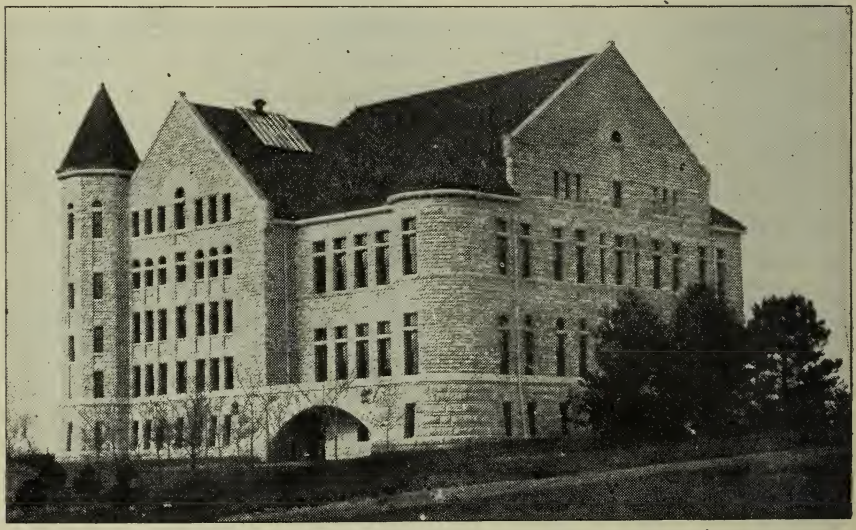
Sergeants: A. D. BROWN, G. FOCKELE, B. R. JACKSON.

Corporals: E. M. AMOS, C. M. MILLER, F. PLEASANT, A. J. RHODES, P. WINNIE.

NAME.	Instrument.	NAME.	Instrument.
Amos, E. M.	Tuba.	Brown, R. H.	Cornet.
Lyman, Wm.	"	Clark, C.	"
Pendelton, F.	"	Gardinier, H. P.	"
Swift, C. B.	"	Hutchinson, G.	"
Albrecht, A. H.	Tenor.	Johnson, A. S.	"
Beck, J. J.	"	Matthews, H.	"
House, E. W.	"	Matthews, V.	"
Judd, H.	"	Pleasant, F.	"
Skow, G. W.	"	Wright, G. L.	"
Spuhler, H.	"	Yerkes, G. E.	"
Walters, F. H.	"	Brown, A. D.	Clarinet.
Wolfe, G.	"	Bender, L. B.	"
Jackson, B. R.	Baritone.	Bliss, G. L.	"
Legere, C.	"	Fockele, G.	"
Martin, H. R.	Slide.	Johnson, C. B	"
Rhodes, A. J	Trombone.	Sprague, E. E.	"
Wilson, F. W.	"	Woodruff, F.	"
Smith, O. H.	French horn.	Wilson, J. T.	Piccalo.
Dubach, A. B.	Alto.	Baxter, E. M.	Drums and Cymbals.
Fielding, L.	"	Miller, C. M	"
Hess, H. P.	"	Hancock A. V.	"
Loomis, H.	"	Paine, R. R	"
Posey, W. N.	"	Winnie, P.	"
Souders, G.	"	Withington, C. H.	"
Ulrich, H.	"		

Total, 50.

MAIN COLLEGE BUILDING.



LIBRARY AND AGRICULTURAL SCIENCE HALL.

History and Resources.

THE income of the College is derived from two sources—nationa and state. The original land-grant act was signed by Presiden Lincoln July 2, 1862. This act appropriated 30,000 acres of land for each senator and representative in Congress. Under the provisions of this act this state was to receive 90,000 acres. The amount actually received was 82,313.52. This land was to be sold and the proceeds to be a permanent endowment, to be invested in bonds bearing not less than five per cent. interest, the income from these bonds to be used for the support of at least one college in each state. The second provision of section 5 reads as follows: "No portion of said fund, nor interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings." The amount of this endowment is $503,-848. This has been increasing until recently, on account of buying bonds below par. The income derived from this endowment since 1880 is given in the column headed "Income Fund," page 16.

Under this act, the state of Kansas, in 1863, established the State Agricultural College, by endowing Bluemont College, which had been erected two miles from Manhattan, under the auspices of the Methodist Episcopal church, but was presented to the state for the purpose named in the act of Congress.

In 1873 the College was reorganized upon a thoroughly industrial basis, with prominence given to practical agriculture and related sciences; and in 1875 the furniture and apparatus of the College were moved to the farm of 223 acres, one mile from the city of Manhattan.

In March, 1887, Congress passed the so-called "Hatch bill," which provided for the organization in each state of a station for agricultural experiments, and gave to each an annual appropriation of $15,000 for this purpose. See "Experiment Station," page 21.

On August 30, 1890, another act was passed by Congress, known as the "college-aid bill," or "Morrill bill." It provided for an annual appropriation, beginning with $15,000 for year ending June 30, 1890, with an annual increase for ten years of $1000 over the preceding year, the annual amount thereafter to each state to be $25,000. This money is "to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic sciences, with especial reference to their applications in the industries of life and to the facilities for such instruction."

TABULATED FINANCIAL EXHIBIT.

Fiscal Year.	State Appropriations.									Inventory increase.	Expense.	National Appropriations.			Enrolment.	Graduates.
	Miscellaneous.	Current expense.	Water and coal.	Regents, etc.	Repairs.	Library.	Equipment.	Buildings.	Total.			Income fund.	Morrill fund.	Hatch fund.		
1863-80								$45,645	$155,302	$86,009						56
1880-81	$17,979[1]			$1,251	$800		$1,950		4,001	3,316	$19,502	$24,766			267	8
1881-82				1,398		$1,000		15,000	17,398	19,784	27,914	17,622			312	9
1882-83				1,864		1,000		15,000	17,864	24,448	29,660	31,551			347	12
1883-84				1,415	500	500	500	7,500	10,415	12,295	34,844	32,638			395	17
1884-85	4,613[1]			1,637	500	500	500	15,000	18,137	37,105	42,646	32,213			402	14
1885-86				1,798	700		600	10,000	12,098	34,721	45,827	38,595			428	21
1886-87				1,733	1,400			4,100	7,233	12,910	38,788	32,253			481	21
1887-88	2,264[1]			2,047	1,000	1,000	4,700	8,817	17,564	16,597	35,768	32,331		$15,000	472	22
1888-89	3,000[2]			1,815	1,000	1,000	2,500		9,315	10,334	32,027	31,686		15,000	445	25
1889-90			$1,425	300	1,900	1,000	2,900	1,000	8,525	8,732	29,892	34,131		15,000	514	27
1890-91			1,649	3,410	1,200	1,000	2,950		10,209	6,857	43,330	28,765	$31,000	15,000	593	52
1891-92	3,000[2]		325	1,698	3,050	250		4,000	12,323	15,219	50,722	29,654	17,000	15,000	584	35
1892-93			500	456	1,500	250			2,706	18,381	57,012	30,187	18,000	15,000	587	39
1893-94			484	37	1,000			74,000	75,521	7,846	54,989	29,761	19,000	15,000	555	39
1894-95			190	116				2,000	2,295	79,736	51,156	29,390	20,000	15,000	572	57
1895-96	1,625[3]		1,995	1,927	4,300	999	5,057	3,480	17,453	13,933	51,928	26,988	21,000	15,000	647	66
1896-97		$10,000	2,084	1,907	1,300	1,000	550	1,300	18,141	157	51,500	28,669	22,000	15,000	734	55
1897-98	629[4]	5,000	2,000	1,656	1,700	1,000	3,200	16,599	31,584	16,171	56,516	27,677	23,000	15,000	803	69
1898-99		5,000	2,000	1,700	1,000		1,050		10,750	2,993	63,704	29,549	24,000	15,000	870	53
1899-1900	7,360[5]	10,000	2,250	1,850	3,000	1,500	22,240	43,500	91,700	45,582	56,956	25,160	25,000	15,000	1,094	58
1900-01	18,993[6]	10,000	2,250	1,850	3,000	1,500			37,593	4,163	65,822	30,910	25,000	15,000	1,321	60
1901-02	4,130[7]	25,000	2,800	1,850	3,000	1,500	9,100	75,000	122,380				25,000	15,000		
1902-03	4,130[7]	30,000	2,800	1,850	3,000	1,500	8,500	10,000	61,780				25,000	15,000		
Total									$792,287							

[1] To restore endowment (not included in totals).
[2] Water mains and sewer.
[3] $1500 cadet uniforms, $125 sewers.
[4] Rent, President's house.
[5] $2000 Farmers' Institutes, $1800 salary State Veterinarian, $3000 sewer, $560 rent President's house.
[6] $2000 Farmers' Institutes, $1800 salary State Veterinarian, $300 rent President's house, $14,893 deficiency June 30, 1899.
[7] $2000 Farmers' Institutes, $1800 salary State Veterinarian, $330 rent President's house.

Grounds and Buildings.

THE College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing toward the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard and sample gardens attached, the whole being surrounded by durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape-gardener, while well-graveled drives and good walks lead to the various buildings. All these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation rooms are excellently lighted and ventilated, and are all heated by steam or hot water. A complete system of sewerage has been provided. The College owns 323 acres of land, valued at $39,700, and leases 221 acres additional. The greater portion of these 544 acres is devoted to experiments.

THE MAIN COLLEGE BUILDING, 152x250 feet in extreme dimensions, is arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices of the President and Secretary, cloak-rooms, studies, chapel, post-office, and offices and classrooms of the departments of drawing, music, mathematics, oratory, English, philosophy, preparatory, and printing. Cost, $79,000. The value of equipment and apparatus in this building is as follows: Executive, $5323; drawing, $2395; music, $1315; mathematics, $1598; oratory, $45; English, $93; preparatory, $36; printing, $2451.

MECHANICS HALL contains the following rooms, forming a connected structure: Wood shop, two stories, 40x103 feet. The upper floor contains offices and classrooms for the department of mechanical engineering. The lower floor contains benches for 220 students, and complete set of wood-working machinery and tools. Machine shops, 40x80 feet; blacksmith shop, 40x50 feet; iron foundry 40x50 feet; brass foundry, 16x30 feet; pipe-fitting room, 18x50 feet; engineering laboratory, 35x40 feet; power room, 35x40 feet; boiler room, 40x75 feet. Cost of buildings, $23,125; value of equipment, $36,341.

GYMNASIUM, one story, 35x110 and 46x75 feet of floor space, is in form of a cross. It contains a drill-room 43x71 feet, a large class-

room, cloak-room, dressing-room, toilet room, ten bath-rooms, and two offices. Cost, $10,000. Value of equipment, $329.

Horticultural Hall, 32x80 feet, is a one-story building with cellar, having museum, classroom, and storage, with greenhouses attached. Cost of building was $4200; value of equipment and apparatus is $18,741.

Horticultural Laboratory contains offices, workroom, five propagating houses, and insectary. Cost, $5000.

Armory, 46x95 feet, is a two-story building. This building, which has served many purposes, is now fitted below for an armory and drill-room and office of military department; also dressing-room and bath-room for the various athletic teams; and above are classrooms, laboratories, offices and museum of the veterinary department. Cost of building, $11,250. Value of equipment and apparatus: Military, $1407; veterinary, $5103.

Library and Agricultural Science Hall is 100x140 feet, three and four stories high. This building provides permanent quarters for the library, with ample reading-rooms and offices, classrooms and laboratories for the departments of botany, entomology and zoölogy, and bacteriology, a classroom and office for the department of history and economics, general museum, and rooms for the various literary societies. Cost of building, $67,750. Value of equipment and apparatus: Botany, $13,281; history and economics, $232; entomology and zoölogy, $10,302.

Domestic Science Hall is 84x70 feet, two stories and basement. The first floor contains office, lecture-rooms and laboratories for the department of domestic science. The second floor is occupied by the department of domestic art. Cost of building, $15,000. Value of apparatus: Domestic science, $1209; domestic art, $572.

Agricultural Hall, 90x95 feet, with its two stories and basement, contains offices, classrooms and laboratories for the departments of agriculture and dairy husbandry. It is well equipped with modern improved machinery for butter- and cheese-making, milk-testing, etc. All the workrooms are lined with opalite tiling. Cost, $25,000; equipment and apparatus, $21,099.

Physical Science Hall is 96x166 feet, and its two stories and basement contain offices, classrooms and laboratories for the departments of chemistry, and physics and electrical engineering. It is heated both by direct and indirect radiation, thus insuring perfect ventilation. Cost of building, $70,000. Value of equipment: Chemistry, $5125; physics and electrical engineering, $3842.

THE FARM BARN is a double but connected stone structure, 50x75 feet and 48x96 feet, with an addition of sheds and experimental pens 40x50 feet. The south wing, 48x96 feet, is the stock-judging room, having a seating capacity of 350. A basement, having stalls for seventy-five head of cattle, silos, motor-room, and granaries, underlies the entire structure. Cost, $10,831.

THE DAIRY BARN. 40x175 feet, is fitted up with modern swinging stalls for eighty head of cows, arranged in two rows, with driveway between. Cost of building, $3000.

THE HORTICULTURAL BARN is a stone building, containing storeroom, granary, and stables for several horses. Cost, $1000.

THE COLLEGE LIBRARY is one of the most important supplements to classroom instruction. It consists of 25,700 bound volumes and about 18,000 pamphlets. These books are mainly kept in a general library, but many volumes of technical character are withdrawn and held in departmental libraries. All of the books are indexed in card catalogues, which show their author, title, and to a large degree the details of their contents; also their location. Students are allowed free access to the shelves, a privilege and a source of culture that is given in perhaps no other library of its size in the country. Students may draw books for home use under simple and liberal regulations. The library is open daily, except on legal holidays, from seven A. M. to six P. M., and the librarian or an assistant is in constant attendance during this period to assist those who use the books. By all these means the library is utilized to the fullest extent and is of inestimable value.

The College subscribes for the leading literary, scientific and agricultural journals, while the principal daily and weekly papers of Kansas, and many from other states, are received in exchange for the College publications. All these are kept on file for the use of students and Faculty. The College has been designated as the depository of United States public documents for the fifth congressional district of Kansas, and 3000 volumes have already been received on this account. Value of books and equipment, $49,707.

Objects.

This College now accomplishes the objects of its endowment in several ways:

First, It gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second, It teaches the sciences applied to the various industries of farm, shop, and home. Chemistry, physics, botany, entomology, zoölogy and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants and animals themselves illustrates and fixes the daily lessons. At the same time lessons in agriculture, horticulture, engineering and household economy show the application of science; and all are enforced by actual experiment.

Third, It trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm and household departments is made a part of the general education for usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.

Fourth, It seeks to extend the influence of knowledge in practical affairs beyond the College itself. For this purpose, farmers' institutes have been organized in nearly every county of the state, in which from one to three members of the Faculty share with the people in lectures, essays and discussions upon topics of most interest to farmers and their families. These institutes have brought the College into direct sympathy with the people and their work, so as to make possible a general dissemination of the truths presented. Members of the Faculty are also prominently connected with the state associations for the promotion of agriculture, horticulture, the natural sciences, and education in general. Correspondence as to farmers' institutes or any questions of practical interest in agriculture or related sciences is desired.

The *Industrialist*, published by the College and edited by the Faculty, gives a wide circulation to matters of interest in the College.

THE EXPERIMENT STATION.

The Agricultural Experiment Station of the College is organized and maintained under the provisions of what is known as the "Hatch act," and is officially designated as "An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July 2, 1862, and the acts supplementary thereto." This was enacted "in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and practice of agricultural science." The law specifies in detail "that it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses for forage-plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The Experiment Station, so established, is an important feature of the College. The President of the College, with the professors of agriculture, botany, chemistry, dairy husbandry, horticulture, entomology, and veterinary science, form the Experiment Station Council, by the authority of which experiments are undertaken, and carried on in the several departments under the supervision of the professors. The heads of certain important departments of instruction in the College are thus also in charge of the several departments of investigation of the Station, and to a certain extent assistants serve in both capacities. The Experiment Station, therefore, is not definitely localized at the institution, but its work and property are more or less woven in with that of the College. The expenses of the Experiment Station work are separately accounted for, however, and its property is listed in separate inventories. While this arrangement involves some difficulties, it also possesses many advantages—advantages which are mutual. The College work profits by having the investigations of the Station

going on alongside. The Station profits in that it thus obtains, without charge, the use of the College farm, buildings, heat, light, and use of various collections, museums, and in some cases apparatus. The expenses of the Experiment Station are met by an appropriation by Congress of $15,000 per annum. The aims of the Station may be said to be twofold—those which lead to immediate returns, and those the object of which can be reached only after a series of years. Experiments of the greatest value are often of the latter kind, but if the work of the Station were limited to such, the public would feel that nothing is being accomplished. It is the intention of the Station force to make all of its experiments practical, in the sense that they lead to results which, indirectly if not directly, benefit the agricultural interests of the country.

The Hatch act provides "that bulletins or reports of progress shall be published at least once in three months, one copy of which shall be sent to each newspaper in the states or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the Station will permit." The publications of the Station include annual reports, bulletins, and press bulletins,

Since 1889 the annual reports contain no details of experiments, but simply outlines of the work of the year in general and in the several departments, and including the financial statements required by law. These annual reports, not being of general interest, therefore, are printed in but small numbers, and sent to libraries and officials only, except on special request.

The bulletins are the means of communicating the results of the Station work directly to the farmers. They are issued in the quantities judged necessary to meet the demand. All investigations are described in them when completed, and they are sent to all on our mailing lists. During the history of the Station the number issued has averaged about eight per annum.

The press bulletins are issued in limited numbers and sent to the papers, to certain state and county officers, and to a considerable number of public or semi-public institutions. They are short, readable, and popular, but at the same time accurate, articles on subjects of current interest, and embodying observations and experiments of members of the Station staff. Extra copies of some of them are printed for use in answering inquiries.

Persons desiring to receive the Station bulletins are requested to address Agricultural Experiment Station, Manhattan, Kan. General correspondence in reference to the Station should be sent in the same

way, but inquiries concerning any special line of investigation should be sent to the head of the department in charge of such work.

Fort Hays Branch Station.—Congress, in an act approved March 27, 1900, ceded the Fort Hays military reservation, containing 7,597.93 acres, to the state of Kansas, on condition that it would establish and maintain there branches of the State Normal School and of the Experiment Station. The state legislature accepted the reservation in an act approved February 7, 1901, and designated a division of the land between the Normal School and the Agricultural College, by which the latter obtained about 3500 acres, including the parts most desirable for agricultural purposes. Situated west of the ninety-ninth meridian, the station will occupy a field entirely different climatically from that of any other station in the country, and the results obtained there ought to benefit a large region, extending even beyond the boundaries of the state. Experiments will be tried on a large scale in making tests of varieties and methods of culture, with special reference to the needs of regions with deficient rainfall. Experiments will be made to determine the feeding value of the drought-resisting crops produced. Experiments with crops, but principally upon sod, were begun this spring. This branch station is supported by a state appropriation. The funds appropriated by Congress cannot be used for the support of substations.

INDUSTRIAL TRAINING.

This institution is preëminently industrial in its aims, methods, and tendencies. While the pure sciences, mathematics and other studies are rigorously taught, there is constantly present a practical atmosphere which incites the student to an application of the principles taught, and thus lends interest and value to the work. In nearly every term of the four-year course the student gives one hour per day to industrial training of one kind or another. This awakens and deepens sympathy with industry and toil, impresses the student with the essential dignity of labor, thus educating toward the industries instead of away from them, and lays a good foundation for a life-work in industrial and technical lines. Even should students not all return to the farm, the shop, or to housewifery, the wider knowledge afforded them and the broader sympathies engendered cannot but redound to their good, and to the advantage of society at large and the industrial classes in particular.

Throughout the first year young men take their industrial in the shops. They thus get a familiarity with tools and methods which enables them to do the wood- and ironwork commonly needed on the farm, and which is useful to all everywhere. The young women take sewing during the first year, and a certain amount of cooking practice

The utility of this needs no argument. After the first year there are differences in the industrial requirements corresponding to differences in the several courses of study. In the domestic science course the various lines of household art constitute almost the entire industrial work, floriculture being given one term and another being open to choice. In the mechanical engineering course shop work in one or another of its various kinds is required every term. In the agriculture course the industrials include practical instruction in the fields, orchards, gardens, and dairy, and in feeding. The general science course offers more latitude in choice of industrials after the second year. Young women may take sewing, cooking, printing, floriculture, or music. Young men may have woodwork, ironwork, dairying, farming, gardening, fruit-growing, or printing. The availability of these industrials depends somewhat on the season in some cases, so that not all are open each term. In addition to the above, a limited number of students are allowed typewriting as the industrial, upon recommendation of the head of a department having a machine.

The labor of students during assigned industrial time is not paid for, as its object is educational, and the student receives full value in the training afforded. In all the instruction in industrial lines special attention is given to making the courses systematic and progressive. Students desiring to give extra attention to such work are allowed every opportunity that the departments can afford. Many students acquire sufficient proficiency to be able to turn their skill to a financial advantage during the later terms of their courses, and all who apply themselves with any diligence obtain a training that cannot fail to be of great benefit to them in after-life. The work of the several industrials will be found described in detail under the individual headings.

EXTENDED COURSE.

Considering the entrance requirements of the institution, the four-year course of study is brief. Where practicable, students are advised to extend their course to five years. For students desiring to do this, additional work will be arranged in departments in which they may desire to specialize. Work done in the extended course may receive special mention on the diploma and be counted against requirements for the second degree.

SPECIAL COURSES.

Persons of suitable age and advancement, who desire to pursue such branches of study as are most directly related to agriculture or other industries, may select such studies, under the advice of the Faculty.

GRADUATE COURSES.

Arrangements can be made for advanced study in the several departments at any time, and outlines of courses will be furnished on application. The electives of the extended course are open to graduates, and special opportunities will be given for investigation and research. Every facility for advancement in the several arts taught at the College will be afforded such students, though they are not required to pursue industrial training while in these courses.

DEGREES.

The degree of bachelor of science is conferred upon students who complete the full course of four years and sustain all the examinations. This degree entitles the holder to credit for studies pursued in any application for state teachers' certificate. (See Laws of 1893.)

Students who extend the course one full year will receive mention on the diploma of special proficiency in those lines of study which they have pursued as an elective for not less than three terms.

The degree of master of science will be conferred in course upon graduates of the College who have received eighteen credits in an approved graduate course, each credit being equivalent to a full study pursued for three months.

Courses will be approved which are in line with any one of the regular undergraduate courses, and include at least six credits in the biological or the physical sciences, or mathematics, and at least six credits in technical or industrial branches.

The principal line of study shall be designated as the major, and another line as the minor study. As nearly as may be, one-third of the time is to be given to the minor and two-thirds to the major study, including in the latter such scientific, mathematical or technical branches as contribute directly to it. The minor study must fill a logical place in the scheme, so that the work as a whole may possess unity.

Applications for graduate study shall be passed upon by the committee on graduate courses and referred by them to the Faculty for action. If approved by the Faculty, the candidate shall obtain an assignment at the beginning of each term for the studies intended to be pursued during the ensuing term. At the close of each term, examinations shall be given in all branches, and the candidate shall be reported as "passed" or "not passed."

Applications for entrance upon graduate study and for changes in major or minor subjects must be presented to the committee on graduate courses within the first week of a College term.

Non-resident candidates will be required to send to the professors in charge of the departments of their major and minor subjects a full

and complete report at the middle and end of each term of the work accomplished within that period. Failure to comply with this requirement will cause the candidate to be dropped from the roll of graduate students, to be reinstated only upon approval of the Faculty. At the end of each term, at the option of the instructors, and at a time and place to be designated by them, an examination may be given to non-resident candidates in the major and minor subjects.

Upon the completion of the required work, and by the 15th day of May of the year in which the degree is desired, each candidate shall present to the committee on graduate courses, typewritten and in duplicate, a satisfactory thesis involving original work along the line of his major subject. Thereupon a special examining committee of three shall be appointed from the Faculty, of whom one member shall represent the major subject and another the minor, who shall examine the candidate orally on the subject-matter of his thesis, and report the result of such examination to the Faculty. Upon receipt of the report of this committee, the Faculty will take action concerning the recommendation of the candidate for the degree.

The subject of the thesis must be presented to the committee on graduate courses for approval by the 1st day of January preceding the commencement at which the degree is desired.

Outlines of direction for study and research in various arts and sciences, with special adaptation to the wants and opportunities of individual applicants, will be furnished, at request, to all graduates; and professors in charge will gladly aid by correspondence in any researches undertaken.

The degree of master of science may be conferred upon the graduates of other colleges of like grade with our own, provided the applicant shall first satisfy the Faculty of his proficiency in the industrial studies distinctive of this institution, on the following conditions:

1. The applicant for the master's degree must be a graduate of at least three years' standing, and a resident of Kansas.

2. His graduate study shall have been in line with that required of graduates of this College, as published in our catalogue.

3. He must make application for the degree on or before the 1st day of January preceding the granting of the same. The application must be accompanied with a statement of his course of study, the work upon which the claim for the degree is based, and the subject selected for his thesis.

4. By April 1, an abstract of the thesis must be submitted to the Faculty.

5. Before May 15, the applicant shall present himself for examination. The examination shall be thorough and extensive, and shall be conducted by a special committee of the Faculty.

COURSES OF STUDY.

With a view of providing for the wants of the various classes of students, the following courses of study are offered:

1. Four-year courses, each leading to the degree of bachelor of science: (*a*) General science; (*b*) agriculture; (*c*) domestic science; (*d*) mechanical engineering; (*e*) electrical engineering.

2. Short courses in (*a*) dairying, (*b*) domestic science, (*c*) agriculture.

3. Apprentice courses in the shops, printing-office, and dairy.

Full explanations of the several courses, and of the studies included in them, will be found under the proper headings, and a general view of the four-year courses is given on the pages following.

All the preparatory subjects and nearly all the studies of the first and second years are taught each term, so that students may enter at any term.

ARMORY.

ALL COURSES.

FALL TERM.	Algebra II	5
	English Readings I	5
	Elementary Botany	5
	Hygiene	1
	Free-hand Drawing	2½
	Woodwork or *Sewing I*	5
	Military Drill or *Calisthenics*	4
	Singing and *Notation.**	
WINTER TERM.	Algebra III	5
	English Readings II	5
	Agriculture or Elementary Cooking	5
	Geometrical Drawing	2½
	Foundry or *Sewing II*	5
	Military Drill 2 / Tactics 1	3
	or *Calisthenics*	5
	Singing and *Notation.**	
SPRING TERM.	Geometry I	5
	English Themes	5
	Elementary Physics	5
	Object Drawing	2½
	Blacksmithing or *Sewing III*	5
	Military Drill or *Calisthenics*	5
	Singing and *Notation.**	

*Optional.

FOUR-YEAR COURSES.

This and the three following pages give a general view of the four-year courses of study. The first year is the same for all students, excepting that the young men take military drill, agriculture, and shop work, while the young women take calisthenics, household economics, and sewing.

Figures following studies show class hours per week. Subjects in *italic type* require no study outside of class. Military drill is optional for young men of the third and fourth years. In the fourth year certain terms are open for electives in the science course and domestic science course. The electives are chosen under the direction of the Faculty. In each case, the electives for the three terms are expected to be in the same line as nearly as possible. The following list is announced, and others will be provided as demanded, in so far as the teaching force available will permit:

FALL TERM.	WINTER TERM.	SPRING TERM.
Analytical Geometry.	Calculus.	Calculus.
Domestic Science I.	Domestic Science II.	Domestic Science III.
Chemistry.	Chemistry.	Chemistry.
Comparative Anatomy.	Veterinary Science.	Breeds and Breeding.
German.	German.	German.
Botany.	Botany.	Botany.
History of Education and School Law.	Philosophy of Education.	Methods and Management.
Entomology.	Entomology.	Entomology.
	Horticulture.	Forestry and Landscape-gardening.
		Physics.
		Constitutional Law.

For outline of instruction, see page 42 *et seq.*

SECOND YEAR. COURSES OF STUDY—Continued.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	Chemistry..... 5 *Laboratory*..... 2½ Geometry II..... 5 Horticulture..... 5 *Industrial, Horticulture*..... 5 *Oratory I*..... 5 *Military Drill*..... 5 *Music.**	Chemistry..... 5 *Laboratory*..... 2½ Geometry II..... 5 Horticulture..... 5 *Industrial*..... 5 *Calisthenics*..... 5 *Music.**	Chemistry..... 5 *Laboratory*..... 2½ Geometry II..... 5 Horticulture..... 5 *Industrial*..... 5 *Military Drill* or *Calisthenics*..... 5 *Music.**	Chemistry..... 5 *Laboratory*..... 2½ Geometry II..... 5 Projection Drawing..... 5 *Oratory I*..... 5 *Blacksmithing*..... 5 *Military Drill*..... 5 *Music.**	Chemistry..... 5 *Laboratory*..... 2½ Geometry II..... 5 Projection Drawing..... 5 *Oratory I*..... 5 *Blacksmithing*..... 5 *Military Drill*..... 5 *Music.**
WINTER TERM.	Organic Chemistry..... 3 Chemistry of Metals..... 2 *Laboratory*..... 2½ Trigonometry..... 5 Dairying..... 5 *Laboratory*.....10 Military Science..... 3	Organic Chemistry..... 3 Chemistry of Metals..... 2 *Laboratory*..... 2½ Trigonometry or American Literature... 5 Oratory I..... 2 or 3 Dressmaking..... 5 *Laboratory*..... 5 *Calisthenics*..... 5	Organic Chemistry..... 3 Chemistry of Metals..... 2 *Laboratory*..... 2½ Trigonometry..... 5 Physiology..... 5 Oratory I..... 2 or 3 *Industrial*..... 5 Military Science..... 3 or *Calisthenics*..... 5	Kinematics..... 5 Chemistry of Metals..... 2 *Laboratory*..... 2½ Trigonometry..... 5 *Projection Drawing*..... 5 *Shop* and *Lectures*.....10 Military Science..... 3	Kinematics..... 5 Chemistry of Metals..... 2 *Laboratory*..... 2½ Trigonometry..... 5 *Projection Drawing*..... 5 *Shop* and *Lectures*.....10 Military Science..... 3
SPRING TERM.	Analytical Chemistry.... 2½ *Laboratory*..... 7½ Entomology..... 5 Tillage and Fertility.... 5 Physiology..... 5 *Surveying*..... 2 *Military Drill*..... 5	Analytical Chemistry..... 2½ *Laboratory*..... 7½ Entomology..... 5 Oratory II or Music I.. 2 or 3 Physiology..... 5 *Calisthenics*..... 5	Analytical Chemistry..... 2½ *Laboratory*..... 7½ Entomology..... 5 Oratory II..... 2 or 3 Higher Algebra..... 5 *Surveying*..... 2 *Military Drill* or *Calisthenics*..... 5	Analytical Chemistry.... 2½ *Laboratory*..... 7½ Heat..... 3 Mechanics..... 2 Higher Algebra..... 5 *Axonometric Drawing*.. 5 *Machine-shop*..... 5 *Military Drill*..... 5	Analytical Chemistry..... 2½ *Laboratory*..... 7½ Heat..... 3 Mechanics..... 2 Higher Algebra..... 5 *Axonometric Drawing*.... 5 *Machine-shop*..... 5 *Military Drill*..... 5

*Music optional throughout the course.

For outline of instruction, see page 42 *et seq.*

THIRD YEAR. COURSES OF STUDY—Continued.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	Rhetoric ..... 5 General History I..... 5 Agricultural Chemistry and Soil Physics ..... 5 Hygiene of Farm Animals..... 3 *Agricultur'l Mechanics*, 5	Rhetoric ..... 5 General History I ..... 5 Home Nursing..... 5 Domestic Science I..... 2 *Laboratory*..... 5 *Oratory III* or *Music II*.. 5	Rhetoric ..... 5 General History I ..... 5 Projection Drawing..... 5 Zoology ..... 2½ *Laboratory*..... 7½ *Industrial*. 5	Rhetoric ..... 5 General History I..... 5 Analytical Geometry .... 5 Descriptive Geometry... 5 *Machine-shop* ..... 5 *Mechanical Drawing*... 2½	Rhetoric ..... 5 General History I..... 5 Analytical Geometry ..... 5 Descriptive Geometry..... 5 *Machine-shop* ..... 5 *Mechanical Drawing*..... 2½
WINTER TERM.	General History II ..... 5 Civics ..... 5 Chemistry of Foods (½ t.), Stock Feeding (½ t.).... 5 Zoology ..... 2½ *Laboratory*..... 7½ *Industrial, Horticulture*, 5	General History II ..... 5 Civics ..... 5 Chemistry of Foods (½ t.), Home Architecture (½ t.), 5 Domestic Science II..... 2 *Laboratory*..... 5 *Floriculture*..... 5	General History II ..... 5 Civics ..... 5 Oratory III (½ t.)..... Chemistry of Foods ½ t.), 5 Logic..... 5 *Industrial*..... 5	General History II ..... 5 Civics ..... 5 Calculus..... 5 *Oratory II* ..... 5 *Mechanical Drawing*... 5 *Graphic Statics*..... 2½ *Machine-shop* 5	General History II..... 5 Civics ..... 5 Calculus ..... 5 *Oratory II*..... 5 *Mechanical Drawing*..... 5 *Graphic Statics*..... 2½ *Machine-shop* 5
SPRING TERM.	General History III ..... 5 Geology ..... 5 Horticulture..... 5 Stock Feeding..... 5 *Oratory II*..... 5	General History III ..... 5 Geology ..... 5 Zoology ..... 2½ *Laboratory*..... 7½ Domestic Science III..... 2 *Laboratory*..... 5	General History III ..... 5 Geology .. .. 5 Bacteriology..... 4 *Laboratory*..... 2½ Perspective and Sketching..... 2½ *Industrial*..... 5	General History III ..... 5 Calculus..... 5 Machine Design ..... 5 Perspective and Sketching..... 2½ *Mechanical Drawing*... 5 *Machine-shop* 7½	General History III..... 5 Calculus ..... 5 Machine Design..... 5 Perspective and Sketching..... 2½ *Mechanical Drawing*..... 5 *Machine-shop* 7½

For outline of instruction, see page 42 *et seq.*

FOURTH YEAR. COURSES OF STUDY—Continued.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	Physics I..... 5 Economic Principles .... 5 Bacteriology..... 4 *Laboratory*..... 2½ Comparative Anatomy... 5 *Industrial*..... 5	Physics I..... 5 Economic Principles..... 5 Bacteriology..... 4 *Laboratory*..... 2½ Oratory IV or Music..... 3 Therapeutic Cookery..... 2 *Laboratory*..... 5	Physics I..... 5 Economic Principles..... 5 Elective..... 5 Oratory IV..... 5 *Industrial*..... 5	Electricity and Magnetism..... 5 Economic Principles.... 5 Steam Engineering..... 5 Applied Mechanics..... 5 *Eng. Laboratory*..... 2½ *Machine Design*..... 2½ *Machine-shop*..... 5	Electricity and Magnetism, 5 Economic Principles..... 5 Applied Mechanics..... 5 Steam Engineering..... 5 *Electrical Measurements*, 2½ *Machine Design*..... 2½ *Machine-shop*..... 5
WINTER TERM.	Physics II..... 5 Horticulture..... 5 General Morphology..... 5 *Laboratory*..... 5 Veterinary Science..... 5	Physics II..... 5 English Literature I..... 5 General Morphology..... 5 *Laboratory*..... 5 House Furnishing and Care..... 5	Physics II..... 5 English Literature I..... 5 General Morphology..... 5 *Laboratory*..... 5 Elective..... 5	Sound and Light..... 5 Mechanics of Materials.. 5 Engineering Power Plants..... 5 *Eng. Laboratory*..... 5 *Machine Design*..... 5 *Machine-shop*..... 5	Sound and Light..... 5 Mechanics of Materials..... 5 Dynamo-electric Machines.. 5 *Electrical Laboratory*..... 5 *Machine Design*..... 5 *Machine-shop*..... 5
SPRING TERM.	English Literature..... 5 Breeds and Breeding..... 5 Plant Diseases and Plant Breeding..... 5 Agricultural Economics, 5 Thesis.	English Literature II..... 5 Psychology..... 5 Elective..... 5 Demonstrations..... 5 Thesis.	English Literature II..... 5 Psychology..... 5 Elective..... 2 *Object Drawing*..... 5 Thesis.	English Literature..... 5 Applied Mechanics..... 5 Hydraulics..... 5 *Engineering Design*.....10 *Eng. Laboratory*..... 2½ Thesis.	English Literature..... 5 Applied Mechanics..... 5 Hydraulics..... 5 *Applied Electricity*..... 5 Electric Power Transmission..... 5 Thesis.

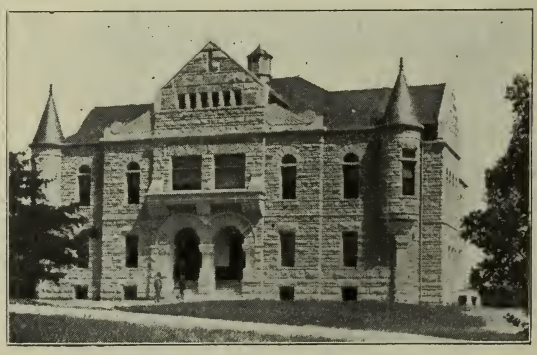
For outline of instruction, see page 42 *et seq.*

Agriculture Course.

The leading feature of the four-year agriculture course is the training offered in methods of farm production. Instruction is given in tillage, crop-production, stock-feeding and breeding, dairying, farm management, orcharding, small-fruit culture, and gardening. Insect life is considered in its relations to the farm, orchard, and garden, including a study of beneficial and injurious insects, with practical methods of combating the latter; and the laws of disease and health are studied, with the causes of diseases of farm animals and methods of avoiding and combating them. Work is required on the farm, and in the orchards and gardens, which will familiarize the student with the best method of conducting operations in these lines; and taken with this work is a study of the results secured by the College in crop-production, fruit-raising, gardening, and feeding for beef, milk, and pork. Three terms of work are given in the carpenter and blacksmith shops, that the student may learn to handle tools and be able to make the common repairs needed on the farm.

Closely connected with agriculture are the sciences upon which successful farm practices are based. Bacteriology is taught, that the student may understand the conditions necessary for promoting the growth of bacteria which add to the fertility of the soil and those which improve the quality of dairy products; and the conditions necessary to prevent the growth of bacteria which exhaust the soil, cause losses in manures, injure dairy products, and bring disease. The laws of plant growth are taught in botany, that the farmer may through their aid grow larger and better crops. An understanding of the laws of physics enables the farmer to store moisture and to reduce the loss of water from the soil by evaporation, so that he can produce crops in dry years. A knowledge of chemistry applied to farm work secures richer soil, better yields, cheaper and greater gain in feeding, and better quality of farm products. The fertility of our new lands has been produced by forces which have been at work for countless ages. A knowledge of the workings of these forces, as taught in geology, helps the farmer to save the fertility of his fields until used for crops and to render available the immense food stores locked up in the soil.

A farmer should be an influential citizen as well as a skilful producer. For this reason, in the agricultural course instruction is given in literature and language, political and economic science, oratory, mathematics, drawing, and music. Such training enables the farmer to take part and become an influential factor in social and public work. Young men securing an education such as is afforded in this course do not leave the farm, but become enthusiastic and successful workers, competent either to manage farms of their own or to superintend farms for others.



AGRICULTURAL BUILDING.

Agriculture Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Algebra II	5	62
English Readings I	5	55
Elementary Botany	5	43
Hygiene	1	78
Free-hand Drawing	2½	53
Woodwork	5	64
Military Drill	4	68

WINTER TERM:

Algebra III	5	62
English Readings II	5	56
Agriculture	5	42
Geometrical Drawing	2½	53
Foundry	5	64
Military Drill	2	68
Tactics	1	68

SPRING TERM:

Geometry I	5	63
English Themes	5	56
Elementary Physics	5	74
Object Drawing	2½	53
Blacksmithing	5	64
Military Drill	5	68

Second Year.

FALL TERM:

Chemistry	5	46
Chemistry Laboratory	2½	46
Geometry II	5	63
Horticulture	5	60
Industrial, Horticulture	5	61
Oratory I	5	72
Military Drill	5	68

WINTER TERM:

Organic Chemistry	3	46
Chemistry of Metals	2	46
Chemistry Laboratory	2½	46
Trigonometry	5	63
Dairying	5	49
Dairy Laboratory	10	49
Military Science	3	68

SPRING TERM:

Analytical Chemistry	2½	46
Chemistry Laboratory	7½	46
Entomology	5	58
Tillage and Fertility	5	42
Physiology	5	78
Surveying	2	63
Military Drill	5	68

Third Year.

FALL TERM:

Rhetoric	5	56
General History I	5	59
Agricultural Chemistry and Soil Physics	5	47
Hygiene of Farm Animals	3	78
Agricultural Mechanics	5	64

WINTER TERM:

General History II	5	59
Civics	5	59
Chemistry of Foods, 1st half,	5	47
Stock Feeding, 2d half	5	42
Zoology	2½	58
Zoology Laboratory	7½	58
Industrial, Horticulture	5	61

SPRING TERM;

General History III	5	59
Geology	5	58
Horticulture	5	60
Stock Feeding	5	42
Oratory II	5	72

Fourth Year.

FALL TERM:

Physics	5	74
Economic Principles	5	59
Bacteriology	4	78
Bacteriology Laboratory	2½	78
Comparative Anatomy	5	78
Industrial	5	—

WINTER TERM:

Physics	5	75
Horticulture	5	60
General Morphology	5	44
Botany Laboratory	5	44
Veterinary Science	5	78

SPRING TERM:

English Literature	5	56
Breeds and Breeding	5	43
Plant Diseases and Plant Breeding	5	44
Agricultural Economics	5	43
Thesis	–	—

Domestic Science Course.

The aim of the domestic science course is both specific and general. Technically it is an application of the sciences of bacteriology to the study of home sanitation and hygiene, of physiology and chemistry to the composition of foods and their effects, of physics as applied to heating and lighting. These sciences necessarily, therefore, underlie the successful and intelligent conduct of the home, whether it be large or small, and must be included in any well-arranged course of domestic science. In the kitchen laboratory a standard system of measurement is taught, and constant emphasis is placed upon neatness, accuracy and economy in the handling of the material and utensils. The instruction in domestic art includes all the various kinds of hand sewing, the making of plain garments, and a complete system of dressmaking. Thus, while the course is based upon studies of a thoroughly scientific nature, the industrial features characteristic of the College are made highly practical and are continued throughout the course.

While the domestic science course emphasizes, primarily, the practical and material side of life, it does not stop here. To the end that well-rounded culture may be secured, studies are offered in this course in English, history, economics, psychology, and oratory. The young women are constantly reminded that life is not all drudgery; that technical knowledge and scientific skill, even, fail to include the full meaning of education in its highest sense. They are taught that any training that fails to develop, harmoniously, body, mind, and spirit, is inadequate and incomplete. They are brought face to face with ideals as well as with actualities; and are made to see that, while skilful labor is the crowning dignity of life, grace, refinement and self-poise are the highest ingredients of true service.

DOMESTIC SCIENCE HALL.

Domestic Science Course.

First column of figures indicates hours per week.
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First Year.

FALL TERM:

Algebra II	5	62
English Readings I	5	55
Elementary Botany	5	43
Hygiene	1	51
Free-hand Drawing	2½	53
Sewing I	5	52
Calisthenics	4	73

WINTER TERM:

Algebra III	5	62
English Readings II	5	56
Elementary Cookery	5	51
Geometrical Drawing	2½	53
Sewing II	5	52
Calisthenics	5	73

SPRING TERM:

Geometry I	5	63
English Themes	5	56
Elementary Physics	5	74
Object Drawing	2½	53
Sewing III	5	52
Calisthenics	5	73

Second Year.

FALL TERM:

Chemistry	5	46
Chemistry Laboratory	2½	46
Geometry II	5	63
Horticulture	5	60
Industrial	5	—
Calisthenics	5	73

WINTER TERM:

Organic Chemistry	3	46
Chemistry of Metals	2	46
Chemistry Laboratory	2½	46
Trigonometry	5	63
or American Literature	5	56
Oratory I	2 or 3	72
Dressmaking	5	52
Dressmaking Laboratory	5	52
Calisthenics	5	73

SPRING TERM:

Analytical Chemistry	2½	46
Chemistry Laboratory	7½	46
Entomology	5	58
Oratory II or Music I	2 or 3	72
Physiology	5	78
Calisthenics	5	73

Third Year.

FALL TERM:

Rhetoric	5	56
General History I	5	59
Home Nursing	5	51
Domestic Science I	2	51
Dom. Science Laboratory	5	51
Oratory III or *Music II*	5	72

WINTER TERM:

General History II	5	59
Civics	5	59
Chemistry of Foods, 1st half,	5	47
Home Architecture, 2d half	5	54
Domestic Science II	2	51
Dom. Science Laboratory	5	51
Floriculture	5	61

SPRING TERM:

General History III	5	59
Geology	5	58
Zoölogy	2½	58
Zoology Laboratory	7½	58
Domestic Science III	2	51
Dom. Science Laboratory	5	51

Fourth Year.

FALL TERM:

Physics I	5	74
Economic Principles	5	59
Bacteriology	4	78
Bacteriology Laboratory	2½	78
Oratory IV or Music III	3	73
Therapeutic Cookery	2	51
Dom. Science Laboratory	5	51

WINTER TERM:

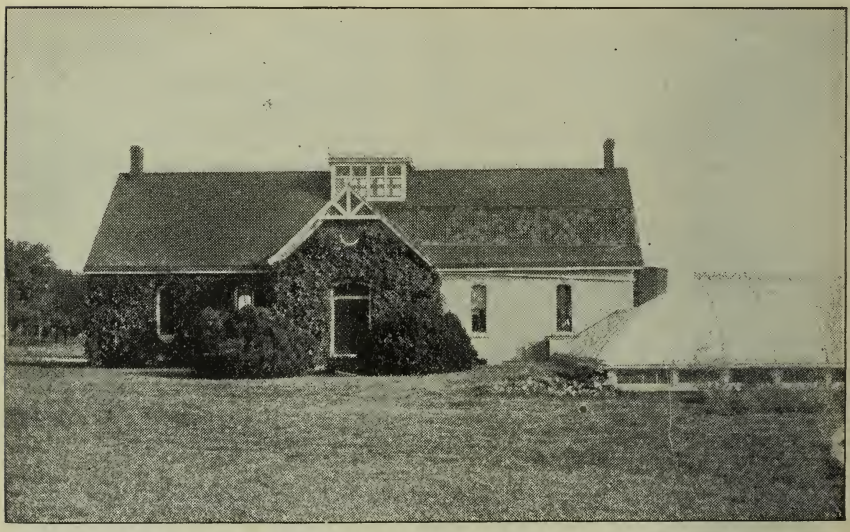
Physics II	5	75
English Literature	5	56
General Morphology	5	44
Botany Laboratory	5	44
House Furnishing and Care	5	51

SPRING TERM:

English Literature	5	56
Psychology	5	73
Elective	5	—
Demonstrations	5	51
Thesis	–	—

General Science Course.

This course is designed to meet the wants of those who seek to obtain a sound and liberal education through the study of the mathematical, physical and natural sciences, English language, and history. It is well adapted to the student who has not yet decided upon his life-work, or who wishes to make this a foundation for further study. It is based on the principle of "a general knowledge of all things before a special knowledge of a few." It will be well worth one's time to take this course before beginning the work of a technical or professional course. The industrial work is a feature of this course, as of all others, and after the first year it is largely elective. This gives ample opportunity to specialize along any line of work, should the student desire. The elective continuing through the fourth year gives opportunity for some special lines, as follows: Young men may take analytical geometry, differential and integral calculus with the third-year engineering students, and young women may take the three terms in domestic science with the third-year women of the domestic science course. Work in other departments may be elected, as: Agriculture, chemistry, physics, horticulture and entomology, veterinary science, and German. In each case, the electives for three terms are expected to be in the same line as nearly as possible. Other electives will be provided as demanded, as far as the teaching force available will permit. Music is optional throughout the four years, and young women are allowed to take it as an industrial after the first year, by permission of the Faculty.



HORTICULTURAL HALL.

General Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

Fall Term:		
Algebra II	5	62
English Readings I	5	55
Elementary Botany	5	43
Hygiene	1	51
Free-hand Drawing	2½	53
Woodwork	5	64
or *Sewing I*	5	52
Military Drill	4	68
or *Calisthenics*	4	73
Winter Term:		
Algebra III	5	62
English Readings II	5	56
Agriculture	5	42
or Elementary Cookery	5	51
Geometrical Drawing	2½	53
Foundry	5	64
or *Sewing II*	5	52
Military Drill	2	68
and Tactics	1	68
or *Calisthenics*	5	73
Spring Term:		
Geometry I	5	63
English Themes	5	56
Elementary Physics	5	74
Object Drawing	2½	53
Blacksmithing	5	64
or *Sewing III*	5	52
Military Drill	5	68
or *Calisthenics*	5	73

Second Year.

Fall Term:		
Chemistry	5	46
Chemistry Laboratory	2½	46
Geometry II	5	63
Horticulture	5	60
Industrial Elective	5	—
Military Drill	5	68
or *Calisthenics*	5	73
Winter Term:		
Organic Chemistry	3	46
Chemistry of Metals	2	46
Chemistry Laboratory	2½	46
Trigonometry	5	63
Physiology	5	78
Oratory I	2 or 3	72
Industrial Elective	5	—
Military Science	3	68
or *Calisthenics*	5	73
Spring Term:		
Analytical Chemistry	2½	46
Chemistry Laboratory	7½	46
Entomology	5	58
Oratory II	2 or 3	72
Higher Algebra	5	63
Surveying	2	63
Military Drill	5	68
or *Calisthenics*	5	73

Third Year.

Fall Term:		
Rhetoric	5	56
General History I	5	59
Projection Drawing	5	54
Zoölogy	2½	58
Zoology Laboratory	7½	58
Industrial Elective	5	—
Winter Term:		
General History II	5	59
Civics	5	59
Oratory III, 1st half	5	72
Chemistry of Foods, 2d half,	5	47
Logic	5	73
Industrial Elective	5	—
Spring Term:		
General History III	5	59
Geology	5	58
Bacteriology	4	78
Bacteriology Laboratory	2½	78
Perspective and Sketching	2½	54
Industrial Elective	5	—

Fourth Year.

Fall Term:		
Physics	5	74
Economic Principles	5	59
Elective	5	—
Oratory IV	5	73
Industrial Elective	5	—
Winter Term:		
Physics	5	75
English Literature	5	56
General Morphology	5	44
Botany Laboratory	5	44
Elective	5	—
Spring Term:		
English Literature	5	56
Psychology	5	73
Elective	5	—
Object Drawing	5	54
Thesis	–	—

Mechanical Engineering Course.

This course offers four years' training in mechanical engineering subjects, and its object is to fit young men for responsible positions in that profession. It prepares for the successful management of machinery and manufacturing establishments, the designing, building and erection of machinery, superintendence of construction, etc. Though the work is largely technical, general studies of a broadening character are not excluded. The course includes instruction by text-book, lecture, laboratory, and workshop practice, and is especially based on mathematics, pure and applied mechanics, physics, chemistry, machine design, structural design, and steam engineering.

The course of study has been laid out with the aim of securing a judicious mixture of theory and practice, such as will not only give the student the technical skill required for engineering operations, but also a broad grasp of the fundamental principles of his profession. The advantages of combining a practical application of principles with theoretical instruction at the time these principles are being impressed by classroom work is well known. The shop work, being purely educational in its character, is so arranged that each student can make as rapid advancement as possible. Instruction is given by skilled workmen, and the work carried on is of the practical character, being, in fact, the building of lathes, engines, drills and machinery for the market and the department. In all shop practice the students work from blue-prints, thus learning to read drawings readily and supplementing the work of the drawing department.

Based upon the fundamental principle that laboratory and shop work, combined with technical training, constitute one of the most important features of engineering education, the course on opposite page is offered.

MECHANICS' HALL.

Mechanical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in catalogue where full descriptions may be found.

First Year.

FALL TERM:		
Algebra II	5	62
English Readings I	5	55
Elementary Botany	5	43
Hygiene	1	78
Free-hand Drawing	2½	53
Woodwork	5	64
Military Drill	4	68
WINTER TERM:		
Algebra III	5	62
English Readings II	5	56
Agriculture	5	42
Geometrical Drawing	2½	53
Foundry	5	64
Military Drill	2	68
Tactics	1	68
SPRING TERM:		
Geometry I	5	63
English Themes	5	56
Elementary Physics	5	74
Object Drawing	2½	53
Blacksmithing	5	64
Military Drill	5	68

Second Year.

FALL TERM:		
Chemistry	5	46
Chemistry Laboratory	2½	46
Geometry II	5	63
Projection Drawing	5	53
Oratory I	5	72
Blacksmithing	5	64
Military Drill	5	68
WINTER TERM:		
Kinematics	5	64
Chemistry of Metals	2	46
Chemistry Laboratory	2½	46
Trigonometry	5	63
Projection Drawing	5	53
Machine-shop and Lectures	10	64
Military Science	3	68
SPRING TERM:		
Analytical Chemistry	2½	46
Chemistry Laboratory	7½	46
Heat	3	74
Mechanics	2	64
Higher Algebra	5	63
Axonometric Drawing	5	53
Machine-shop	5	65
Military Drill	5	68

Third Year.

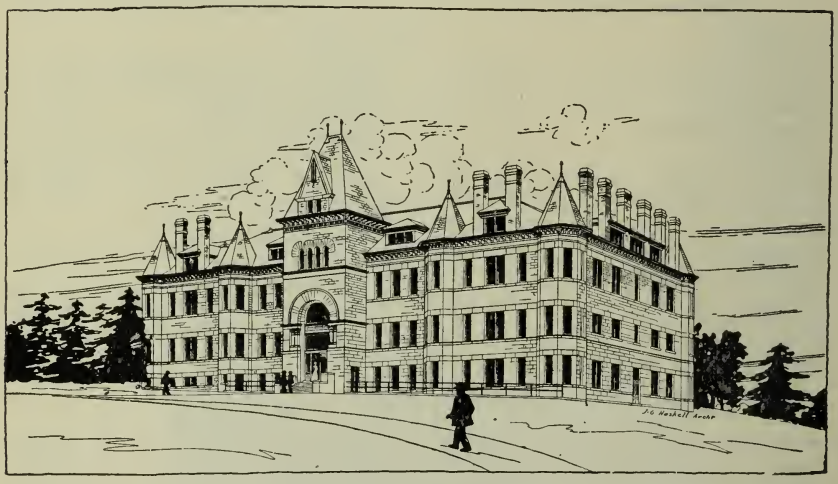
FALL TERM:		
Rhetoric	5	56
General History I	5	59
Analytical Geometry	5	63
Descriptive Geometry	5	53
Machine-shop	5	65
Mechanical Drawing	2½	65
WINTER TERM:		
General History II	5	59
Civics	5	59
Calculus	5	63
Oratory II	5	72
Mechanical Drawing	5	65
Graphic Statics	2½	65
Machine Shop	5	65
SPRING TERM:		
General History III	5	59
Calculus	5	63
Machine Design	5	65
Perspective and Sketching	2½	54
Mechanical Drawing	5	65
Engine Running	7½	65

Fourth Year.

FALL TERM:		
Electricity and Magnetism	5	74
Economic Principles	5	59
Steam Engineering	5	65
Applied Mechanics	5	65
Engineering Laboratory	2½	65
Machine Design	2½	65
Machine-shop	5	65
WINTER TERM:		
Sound and Light	5	74
Applied Mechanics	5	65
Engineering Power Plants	5	65
Engineering Laboratory	5	65
Machine Design	5	65
Machine-shop	5	65
SPRING TERM:		
English Literature	5	56
Applied Mechanics	5	65
Hydraulics	5	65
Engineering Design	10	65
Engineering Laboratory	2½	65
Thesis	–	—

Electrical Engineering Course.

This course is arranged to supply the demand for men who have a practical knowledge of electricity, as well as a thorough knowledge of the principles and laws governing the forces and phenomena with which they have to deal. The applications of electricity are broadening out so rapidly by discovery and invention and by increased commercial applications, that new facts are to be met with almost daily. To meet these demands, the student should be well grounded in all the branches underlying his profession. This course is therefore made strong in mathematical and physical sciences. A well-equipped electrical engineer should also be a mechanical engineer, and must have some training in the principles of steam and hydraulic engineering as well as heat, plumbing, etc. Drawing, machine design, and mechanics of machinery, together with shop practice, occupy considerable portion of the time of the student. Some general-culture studies are offered in history and economics, oratory, and English. It is believed that this course will give a broad general training, with sufficient technical knowledge to meet the needs of a practical engineer.



PHYSICAL SCIENCE HALL.

Electrical Engineering Course.

First column of figures indicates hours per week.
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First Year.

FALL TERM:

Algebra II	5	62
English Readings I	5	55
Elementary Botany	5	43
Hygiene	1	78
Free-hand Drawing	2½	53
Woodwork	5	64
Military Drill	4	68

WINTER TERM:

Algebra III	5	62
English Readings II	5	56
Agriculture	5	42
Geometrical Drawing	2½	53
Foundry	5	64
Military Drill	2	68
and Tactics	1	68

SPRING TERM:

Geometry I	5	63
English Themes	5	56
Elementary Physics	5	74
Object Drawing	2½	53
Blacksmithing	5	64
Military Drill	5	68

Second Year.

FALL TERM:

Chemistry	5	46
Chemistry Laboratory	2½	46
Geometry II	5	63
Projection Drawing	5	53
Oratory I	5	72
Blacksmithing	5	64
Military Drill	5	68

WINTER TERM:

Kinematics	5	64
Chemistry of Metals	2	46
Chemistry Laboratory	2½	46
Trigonometry	5	63
Projection Drawing	5	53
Machine-shop and Lectures	10	64
Military Science	3	68

SPRING TERM:

Analytical Chemistry	2½	46
Chemistry Laboratory	7½	46
Heat	3	74
Mechanics	2	64
Higher Algebra	5	63
Axonometric Drawing	5	53
Machine-shop	5	64
Military Drill	5	68

Third Year.

FALL TERM:

Rhetoric	5	56
General History I	5	59
Analytical Geometry	5	63
Descriptive Geometry	5	53
Machine-shop	5	64
Mechanical Drawing	2½	64

WINTER TERM:

General History II	5	59
Civics	5	59
Calculus	5	63
Oratory II	5	72
Mechanical Drawing	5	64
Graphic Statics	2½	65
Machine-shop	5	64

SPRING TERM:

General History III	5	59
Calculus	5	63
Machine Design	5	65
Perspective and Sketching	2½	54
Mechanical Drawing	5	65
Engine Running	7½	65

Fourth Year.

FALL TERM:

Electricity and Magnetism	5	74
Economic Principles	5	59
Steam Engineering	5	65
Applied Mechanics	5	65
Electrical Measurements	2½	75
Machine Design	5	65
Machine-shop	5	65

WINTER TERM:

Sound and Light	5	74
Applied Mechanics	5	65
Dynamo-electric Machines	5	75
Electrical Laboratory	5	75
Machine Design	5	65
Machine-shop	5	65

SPRING TERM:

English Literature	5	56
Applied Mechanics	5	65
Hydraulics	5	65
Electric Power Transmission	5	75
Applied Electricity	5	75
Thesis	–	—

Outline of Instruction.

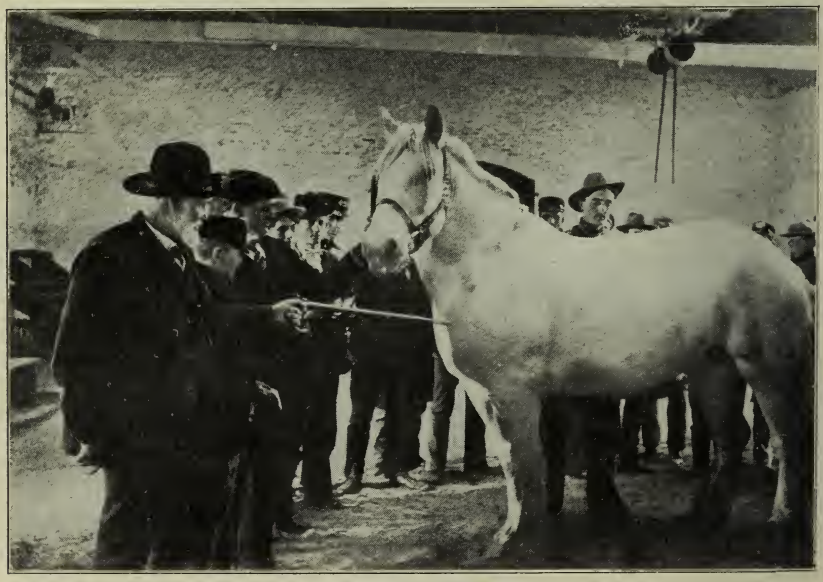
Agriculture.

No. 1 is required of all young men; the other numbers in the agriculture course only.

1. **Agriculture.** First year, winter term. Treats of soils, their contents, texture, moisture, tillage, and enrichment; the farm plant, its office, propagation, growth, and care; the animal, its life, feed, and management. Five hours per week. Text-book, Bailey's Principles of Agriculture. Lectures.

2. **Tillage and Fertility.** Second year, spring term. The management of the soil for maintaining and increasing its productivity, with special study of conservation of moisture. Includes a study of the nature, functions, texture and washing of soils, with the amount and availability of plant-food in soils; practical methods of rendering more plant-food available: plows and plowing, and other implements and methods of tillage; the conservation of soil moisture; farm manures; nitrification; clover crops, fallows, and improvement of soils by clover and alfalfa; rotations; selection of seed; methods of planting; treatment after planting and harvesting of grain, grass, root and forage crops; and special treatment. Five hours per week. Text-book, Robert's Fertility of the Land. Lectures.

3. **Stock Feeding.** Third year, winter term, half study; spring term, full study. The properties of feed stuffs, and their combination to secure good results at least cost with products having the desired qualities; effect of feeds on



JUDGING HORSES.

quality of products: preparation of feeds; methods of feeding; care and shelter of farm animals; construction of farm buildings and appliances to secure best returns from feed and for saving labor; study of experimental work in stock feeding. Five hours per week. Text-book, Henry's Feeds and Feeding. Lectures.

4. **Breeds and Breeding.** Third year, spring term. History and characteristics of the breeds of live stock, and their adaptability to Kansas conditions; laws of heredity, atavism; law of correlation; variation; conditions affecting fecundity; in-and-in breeding and cross breeding; form as an index to qualities; selection and judging of live stock; compiling pedigrees. Five hours per week, Text-book, Miles's Stock Breeding. Lectures.

5. **Agricultural Economics.** Fourth year, spring term. Selection, equipment and management of the farm; farm labor, buildings, and machinery; field and feeding experiments; study of markets for farm products; agricultural history. Five hours per week. Lectures. Library references.

MEANS OF ILLUSTRATION.

Two hundred and eighty acres of land for farm purposes, with fields in alfalfa, grasses, grains, and forage crops, illustrating the best methods of field work.

A barn, fifty by seventy-five feet, arranged for experimental purposes, connected with a stock-judging room, forty-eight by ninety-six feet. The barns are filled with improved machinery for shelling, grinding, thrashing, cleaning and grading grain, and for cutting for the silo. A model dairy barn for eighty cows, and cows to fill it.

Botany.

The instruction in the botanical department is along three lines:

First, as a Pure Science.—The department aims to give the student the training in observation and scientific reasoning, and also the information which he should have as a matter of general knowledge, regardless of his subsequent vocation. Botany is the first natural science to which the student is introduced in his College course, and for this reason it is necessary that he receive in this department his elementary training in scientific methods.

Second, as a Science Underlying Agriculture.—It is well recognized that botany is one of the most important of the sciences upon which the practice of agriculture is based, for the reason that botany deals with plant life, and plant life is at the basis of agriculture. Whenever practicable, illustrations and examples in both the elementary and advanced work are chosen with particular reference to their bearing upon agriculture.

Third, Technical Botany, including such subjects as are of direct application in agriculture. The training in the special botanical studies of the agriculture course is chiefly of this nature, as will be seen by consulting the outline below.

Of the studies described below, Nos. 1 and 2 are required in the general science and domestic science courses; Nos. 1, 2 and 3 in the agriculture course, and No. 1 in the mechanical and electrical engineering courses.

1. **Elementary Botany.** First year, fall term. This course covers the elements of morphology, physiology, and ecology. All of the great groups of plants are taken up and discussed in the order of their evolutionary development. Especial attention is given to the changes in structure which appear in response to changes in environment. Emphasis is laid upon the plasticity and adaptiveness of the plant organism. By grasping this fundamental conception at the outset,

the facts of plant life, particularly studied in horticulture and agriculture, become more comprehensible and significant. The work of the classroom is supplemented by field trips under the immediate direction and supervision of the head of the department and the assistant. In this way a knowledge is gained of the relation of plants to each other and to their environment. A general study of the classification of the plant kingdom, sufficient to enable the student to understand the broad outlines, and the relationships of the great alliances, is secured in this course, and, by coming into close contact with plants as living organisms in their natural habitats, he becomes acquainted with the factors that regulate their life and activity. Coulter's Plant Studies is the text used.

2. **General Morphology.** Fourth year, winter term. During this term the forms and structural relations of representatives of all the great groups of plants are studied in detail in the laboratory. The object of the course is to give the student a comparative understanding of the morphological character of the more important members of the plant kingdom. In this work, accuracy of observation is developed by exact studies, and drawings from the gross object with the unaided eye, and by means of the simple and the compound microscope. All necessary instruments and reagents are supplied by the laboratory. Drawing utensils are provided by the students, under the direction of the professor of botany. Laboratory outlines are furnished by the department.

3. **Plant Diseases and Plant Breeding.** Fourth year, spring term. Lectures and laboratory work. The first half of the term is devoted to the study of plant breeding and plant evolution. The laws of heredity and variation are studied, and their application to the improvement of economic plants by selection and cross-breeding. The extended series of experiments now being conducted by the Experiment Station will be used for illustration. The work in plant breeding is conducted by means of lectures and conferences, supplemented by laboratory and field observation so far as possible. Bailey's Plant Breeding, and Darwin's Origin of Species are the basis of the required reading, and are to be

MAIN DRIVE

procured by those taking the course. The second half of the term is devoted to the study of the commoner fungi which cause diseases in economic plants. The student is familiarized by the lectures with the great groups of the fungi and their chief subsidiary groups. The general morphology of these is discussed successively, and the morphology and physiology of the particular representative of each selected for laboratory study is given in detail, together with combative and preventive measures. In this way a foundation is laid for intelligent and systematic investigation of any of the economic fungi which the student may wish to carry on in the future. A rich herbarium of types, and a constantly growing set of duplicates, furnishes abundant material for the work, and is supplemented by alcoholic specimens properly killed and fixed and by prepared slides. Ample literature on the subject of plant diseases is afforded by the library of the department and of the Experiment Station. H. Marshall Ward's Disease in Plants is used as a text. Prerequisites are courses 1 and 2 or their equivalents.

GRADUATE COURSE.

4. General morphology of thallophytes. Winter term, three afternoons a week. Lectures and laboratory work. This course involves a detailed study of the morphological characters of the algæ, fungi, and lichens.

5. General morphology of the bryophytes and pteridophytes. Spring term, three afternoons a week. Lectures and laboratory work. The work begun in course 4 is here continued in the higher groups of liverworts, mosses, and ferns. Especial attention is given to evolutionary lines of development in these groups.

6. General morphology of the spermatophytes. Spring term, three afternoons a week. Lectures and laboratory work. The work of this course will be given in alternate years with course 5, and covers the morphology of the gymnosperms, monocotyledons, and dicotyledons, representatives of each of the chief groups of these great alliances being studied in considerable detail.

7. Morphology and physiology of economic grasses. Spring term, three afternoons a week. Lectures and laboratory work. This course contemplates a detailed study of the cereals and other economic grasses; their history, distribution, structure, and habits.

8. **Ecology.** Fall term, three days a week. This course involves the study of the reactions of plants to their environment in their associative relations as plant societies. Problems of ecological and geographical distribution will be considered, and as far as possible the work will be made individual, each student being directed into some special ecological question as early as possible. Lectures and conferences will furnish general guidance, and special reading will be assigned. The work proper will be strictly in the field.

9. **Plant Histology.** Spring term, two afternoons a week. This is a course in laboratory methods, involving a study of processes of killing, fixing and preserving plant tissues; dehydrating, imbedding in paraffin and celloidin; microtome sectioning; mounting and staining of slides. A varied series of preparations will be worked upon, with a view to the acquisition of facility in technique and in the preparation of material for research.

MEANS OF ILLUSTRATION.

A general herbarium, consisting of a large collection of plants of the United States and other countries; a Kansas herbarium, containing specimens illustrating the distribution and variation of plants throughout the state; a twig herbarium, illustrating woody plants in their winter condition; and a seed herbarium, containing a representative collection of seeds and fruits, amounting all together, to about 70,000 specimens; also thirty-eight compound microscopes, seven dissecting microscopes, tools, reagents, etc. The department is provided with a zinc culture room, and the ordinary apparatus for bacteriological work.

Chemistry.

All of the industries are becoming more and more dependent for their highest success upon the intelligent application of the sciences, and the special sciences are making their greatest progress by tracing their phenomena back to the physical and chemical changes that accompany them. A study of chemistry and physics is therefore essential to any understanding of the processes of nature or human industry. In the instruction in chemistry the aim is to insist upon a mastery of the chief concepts of the pure science through the agency of text-book drill, accompanied by demonstrations in the lecture-room, and experimental observations by the student himself in the laboratory. As the course proceeds, illustrations of chemical principles are drawn from the industrial processes of the chemical, agricultural, domestic, and other arts, thus impressing the practical nature of the study. The ultimate object of the instruction is to develop in the student the power to form independent judgments upon the manifold problems of daily life in which chemistry plays a part.

Of the studies described below, Nos. 1, 2 and 4 are required in all courses. In the general science and domestic science courses, Nos. 3 and 6 are required in addition, and in the agriculture course Nos. 3, 5 and 6.

1. **Chemistry.** Second year, fall term. This term's work is designed to give the student a knowledge of the fundamental principles of the science as illustrated by the chemistry of the non-metals. The text-book is supplemented by lectures, and the subjects are amply illustrated by experimental demonstrations. Elementary physics is a prerequisite. Text-book, Remsen's Introduction to the Study of Chemistry.

Laboratory.—This course includes laboratory work two hours per week, in which the student performs most of the experiments of the text-book, or others similar. In this, as in all of the laboratory work in chemistry, the objects are to illustrate chemical phenomena, and to teach care in manipulation, attentive observation, logical deduction, and discrimination and care in recording results and conclusions. Laboratory guide, Remsen and Randall's Chemical Experiments.

2. **Chemistry of Metals.** Second year, winter term, first five weeks. The properties and uses of the more important metals, their occurrence in nature, mode of preparation, and the preparation and properties of their more important compounds are considered. At the same time, opportunity is taken to still further develop the general principles of chemistry. Text-book, same as for course 1.

Laboratory.—This work illustrates the classroom lessons during the first half-term. The second half-term consists of preliminary work in qualitative analysis upon known salts and simple mixtures. In this W. A. Noyes's Qualitative Analysis is used.

3. **Organic Chemistry.** Second year, winter term, last seven weeks. In a course as brief as this only a few of the most fundamental general principles and reactions can be considered, and especial attention is given to topics bearing upon the arts and industries. The subject is amply illustrated by experiments on the lecture table, but the students have no laboratory work in this connection. Text-book, Remsen's Organic Chemistry (in part), supplemented by lectures. Course 1 must precede this.

4. **Analytical Chemistry.** Second year, spring term. Two lessons and recitations per week accompany the laboratory work. In these and in the laboratory the teaching of analysis as such is a secondary object, although the student is held to the exact observations and careful reasoning required in ascertaining the composition of single substances and mixtures. The prime object

of the course is to increase the student's knowledge of chemistry as a whole; by approaching reactions from another direction, to obtain a broader view of the science. The lessons include a review of the more important topics of inorganic chemistry, in which it is seen that the occurrence of elements or compounds in nature, and their preparation in the arts are closely connected with the reactions made use of in the identification of them in analysis. The exercises are so arranged as to pass from the simple to the more difficult, and at the same time to facilitate the comparative study of the several cations and anions. Courses 1 and 2 must precede this. Text-books, Remsen's Introduction to the Study of Chemistry, and W. A. Noyes's Qualitative Analysis.

Laboratory.—Nearly all of the work of the term is upon unknown substances, preparation for this having been made the preceding term. The work at first is upon single soluble substances, mixtures and insoluble substances being given later. Text-book, W. A. Noyes's Qualitative Analysis. The larger standard works on chemical analysis are available for reference in addition.

5. **Agricultural Chemistry and Soil Physics.** Third year, fall term. Among the subjects treated are: The formation and characteristics of different types of soil; the soil requirements of a variety of crops; the modes of soil enrichment and amelioration, and the general relations of crops to earth, air and water. Both chemical and physical relations are considered throughout this course, but special attention is given to the study of soil moisture from the physical point of view. The chemical characteristics of the most important feeding-stuffs, and the conditions affecting these are also studied. Text-books, Snyder's Soils and Fertilizers, and Henry's Feeds and Feeding. These are supplemented by lectures. Courses 3 and 4 must precede this.

6. **Chemistry of Foods.** Third year, winter term, six weeks. This is a course of lectures on the composition of foods and feeds, the methods of investigation employed in their study, the functions that the several classes of compounds perform in nutrition, and the changes which they undergo in cooking and digestion. Water-supply and purification of water are also treated. Course 3 and physiology must precede this course.

MORE ADVANCED COURSES.

Advanced work in chemistry is offered in graduate courses and as electives in the general science and the domestic science courses. Classes requiring lectures and recitations will not be organized for less than three students.

7. **Inorganic Chemistry.** Fall and winter terms. This course includes a thorough study of one of the larger text-books, such as Richter's or Newth's, accompanied by a special course of laboratory work.

8. **Organic Chemistry.** Spring term. This course includes laboratory work, and the study of a text-book adapted to the advancement of the students. When sufficient demand exists it will be extended to two terms.

9. **Chemistry of Foods.** This course is designed for graduate students taking domestic science, and extends through a year. It consists of study of the literature treating of food and nutrition from a chemical standpoint, accompanied by laboratory work in the separation and study of the constituents of foods, drinks, and condiments. This course may be extended to almost any extent, and leads naturally to the quantitative analysis of foods.

10. **Quantitative Analysis.** This may be taken at any time after completing course 4. After the necessary preliminary training, the student may give special attention to any line of quantitative analysis, such as that of foods and fodders, soils and fertilizers, ores, water, gases, etc. The investigation of special chemical questions is encouraged.

11. **Historical and Theoretical Chemistry.** This course may be arranged for by students who have completed courses 7 and 8.

12. **Mineralogy.** Crystallography, the study of minerals and blowpipe analysis may be taken concurrently or separately.

13. **Journal Meeting.** Once a week throughout the year, the officers of the department, with the more advanced students and such others as wish to, meet for papers and discussions upon topics representing the progress of chemical science, chiefly as found in the current journals. The preparation of subjects for presentation at these meetings is a part of the required work of graduate students.

MEANS OF ILLUSTRATION.

The equipment of this department was largely destroyed by fire, May 31, 1900. The most essential requirements have been replaced for both lecture-room and laboratory needs, and with the occupation of the new building next fall it is expected that the opportunities for work will be superior to any which the department has ever had previously. The collections, though largely lost, still include representative specimens of the most important ores and minerals, a set of natural crystals, a set of large glass crystal models, a collection of the minerals of the noted Stassfurth deposit, and chemical preparations illustrating subjects taught.

AGRICULTURAL HALL.

Dairy Husbandry.

1. **Dairying.** Second year, winter term. Milk—its secretion, nature and composition; testing milk, cream, skim-milk, buttermilk and whey; conditions influencing the quantity and quality of milk; handling of milk for market, butter-making, and cheese-making; hand and power separators; cream ripening; making and marketing butter; study of cows, calves, and feeds for the most economical production of dairy products. Text-book, Testing Milk and its Products, by Farrington and Woll; Milk and its Products, by Wing. Lectures.

2. **Milk-testing.** Industrial, second year, winter term. Practice in testing milk and its various products; detection of adulterated milk; tests for distinguishing oleomargarine and butter; testing accuracy of glassware; study of various makes of hand and power Babcock testers; different methods of testing the acidity of milk. Twenty hours per term.

3. **Butter-making.** Industrial, second year, winter term. Practice in receiving and separating milk; sterilizing skim-milk; pasteurizing, ripening and churning the cream; washing, salting, working, printing, packing, and marketing the butter; practice with various makes of hand and power separators; with different makes of cream ripeners, churns, and butter workers. Twenty hours per term.

4. **Cheese-making.** Industrial, second year, winter term. Rennet tests; setting the milk, cutting the curd, developing acidity; salting, pressing and curing the cheese. Twenty hours per term.

MEANS OF ILLUSTRATION.

Dairy apparatus valued at $10,000, dairy herd $5000, and model dairy barn at $3000; four breeds of pure-bred dairy cattle, two breeds of general-purpose cattle, and fifty head of calves and young stock.

Experiments in feeding cows and calves are in progress during the year. Students in dairying are required to watch and report on these experiments from time to time.

In addition to the regular College equipment, manufacturers of separators, Babcock testers and other dairy supplies have loaned the College several thousand dollars' worth of machinery for instructive purposes.

STOCK JUDGING.

Winter term. Special instruction is given by prominent judges and successful breeders of poultry, beef cattle, dairy cattle, swine and horses. Ten breeds of cattle are represented on the College farm—Aberdeen-Angus, Galloway, Hereford and Shorthorn representing the beef breeds; Ayrshire, Guernsey, Jersey and Holstein-Friesian representing the dairy breeds; and the Polled Durham and the Red Polled representing the dual-purpose breeds. The College has a herd of thirty common cows.

Four breeds of swine have been donated by twenty-five different breeders of Kansas, each breeder sending what he would call a model animal. This furnishes an excellent opportunity to study the ideals of successful breeders.

Several breeds of poultry are owned by the College, and the fanciers around Manhattan loan all the birds needed for judging purposes.

The College owns some fine Percheron horses, and, in addition, secures the loan of some of the best draft and driving horses in the state for judging purposes.

The judging room, forty-eight by ninety-six, is located in the large stone barn at the north end of the College campus, and has a seating capacity for 350.

JUDGING DAIRY COWS.

SEPARATING MILK.

Domestic Science.

Of the studies described below, Nos. 1 and 2 are required of all young women, and Nos. 4 to 10, inclusive, are required in the domestic science course. Nos. 5, 6 and 7 are elective for young women in the general science course.

1. **Hygiene.** First year, fall term. This course consists of lectures in elementary hygiene for women, and covers the care of the human body as well as the general principles of wholesome living.

2. **Elementary Cookery.** First year, winter term. Lectures, with weekly laboratory practice. The course includes the study of fuels, construction and management of stoves, and the effect of heat on the food principles in an elementary but typical manner.

3. **Household Economics.** Second year, fall term. Lectures, with laboratory practice covering the choice, use and care of utensils, also methods of general cleaning.

4. **Home Nursing.** Third year, fall term. This course includes the study of the care of adults and children in sickness and convalescence; aids in sudden illness and to the injured; contagious and infectious diseases, together with sanitary conditions and precautions.

5. **Domestic Science I.** Third year, fall term. The fall work opens with the preservation of fruits and vegetables in canning, preserving, and the making of jellies, jams, and fruit juices. Breakfast sequence. The effect of heat on the food principles used in breakfast dishes and beverages is followed by the preparation and serving of breakfasts, considering also quantities, food values, and costs. Text-books, Boston Cooking School Cook-book, Miss Farmer; Expert Waitress, Springstead.

6. **Domestic Science II.** Third year, winter term. Luncheon and supper sequences. The cookery of luncheon and supper dishes is followed by a study of food combinations in bills of fare, and the serving of luncheons and suppers, together with discussions of food values, quantities, and costs. Text-book, same as for Domestic Science I.

7. **Domestic Science III.** Third year, spring term. Dinner sequences and dietaries. The first part of the term is occupied in the cookery of dinner dishes, construction of bills of fare, and the serving of the dinners, together with a study of food values, quantities, and costs. The last part of the term is spent in a study of dietaries. Text-book, same as for Domestic Science I.

8. **Therapeutic Cookery.** Fourth year, fall term. This work comprises special cookery for the sick, and the various ways of administering food to the sick and convalescent. Text-book, Food for the Sick, Doctor French.

9. **House Furnishings and Care.** Fourth year, winter term. This course consists of a study of furnishings; color combinations; fabrics and textiles; daily household routine; and household accounts. Text-books, Home Economics, Parloa; Laundry Manual, Balderstein.

10. **Demonstrations.** Fourth year, spring term. Each student is required to give a demonstration lecture in cooking before the class, and give approved recipes. The student may select one assistant from the class to assist in the general details of the work. To accompany this there will be advanced work in foods and dietaries.

Domestic Art.

This department provides a systematic course in plain sewing, dressmaking, and millinery.

The course of work in plain sewing is carefully graded, not only to insure a thorough knowledge of the subject, but to develop habits of order, accuracy, and self reliance. Each pupil is required to keep a note-book in which she records a description of the work accomplished. A written examination is held at the end of each term.

Of the studies described below, all young women are required to take Nos. 1, 2, and 3, and those in the domestic science course must take No. 5.

Materials for No. 1 are furnished by the College, the pupil furnishing her own thread, needles, thimble, etc. In Nos. 2, 3, 4, and 5, the pupil furnishes her own materials and makes the garments for herself.

1. **Sewing I.** First year, fall term. The pupil makes a book of models, covering the full course in hand sewing, and consisting of basting, hemming, gathering, darning, patching, etc.

2. **Sewing II.** First year, winter term. Machine practice; drafting, cutting and making underskirt and drawers.

3. **Sewing III.** First year, spring term. Drafting, fitting and making dress without lining.

4. **Sewing IV.** Second year, fall term. Cutting and making corset cover and night dress.

5. **Dressmaking.** Second year, winter term. Nos. 1, 2 and 3 are a prerequisite for this course. The use of a dress cutting system is taught, and each pupil will be required to draft, cut and make a woolen dress for herself. Ten hours per week are devoted to class work and about three hours' home work is required per week.

6. **Millinery.** Fourth year, spring term. Renovating felt and straw hats, velvets, silks, and ribbons. Trimming and wiring hats; cutting and putting on facings, both plain and shirred; fold and bow making. Practice trimming; trimming final hat. Pupils will be expected to bring in two old hats, one felt and one straw, for practice work.

HORTICULTURAL HALL.

Drawing, Descriptive Geometry, and Architecture.

Drawing is the language of form and the key to every artistic and nearly every industrial pursuit. The educational and practical value of an extended and systematic course in its various branches can hardly be overestimated. The general aims of the several courses in industrial art are the same: (*a*) The cultivation of observation and analysis of form; (*b*) the development of correct taste; (*c*) the teaching of the different methods of graphic representation; (*d*) the acquirement of skill in handling drawing tools.

Of the studies described below, Nos. 1 to 8, inclusive, are required in the mechanical and electrical engineering courses; Nos. 1, 2, 3, 8, 9, and 10, in the general science course; Nos. 1, 2, 3, and 11, in the domestic science course; and Nos. 1, 2, and 3, in the agriculture course.

The College furnishes drawing-board, T square, triangles and water-colors for the graphic work done at the College; but all tools for home use, including drawing-board, T square, triangles, compasses, shading pen, and protractor, must be furnished by the student.

1. **Free-hand Drawing.** First year, fall term. Exercises with forms involving the right line and the arc, illustrating the effects of geometrical arrangement, repetition, alternation, symmetry, proportion, harmony, and contrast. After a few lessons in geometrical lines, the conventional surface ornament is taken up, and more subtle curvatures and complex forms are introduced. Text-book, Walters's Industrial Drawing, envelopes 2 and 7.

2. **Geometrical Drawing.** First year, winter term. Construction of perpendiculars, parallels, angles, polygons, tangents, etc. Construction of the ovoid, oval, ellipse, and spiral. Drawing, in India ink and water-colors, of various geometrical designs and architectural forms. Use of drawing-board and T square. Text-book, Walters's Industrial Drawing, envelopes 11 and 12.

3. **Primary Object Drawing.** First year, spring term. Discussion and drawing of geometrical models and simple objects. Exercises in shading from the object and from imagination.

4. **Orthographic Projection.** Second year, fall term. Principles of orthographic projection; the profile plane; the secant plane; rotation in space; change of ground line. Development of surfaces. Interpenetrations of the prism, pyramid, and polyhedron. Projection of the circle, cylinder, and cone. Exercises in pen and brush shading.

5. **Orthographic Projection.** Second year, winter term. Construction and projection of the conic-section lines. Construction of the cycloid, involute, spiral, cissoid, conchoid, curve of pursuit, helix, etc. Construction of screw forms. Interpenetrations of the cone, cylinder, and sphere. Shades and shadows of simple geometric forms. Exercises in pen and brush shading.

6. **Axonometry.** Second year, spring term. Problems in monodimetric and isometric projection. The approximate development of the sphere. Problems on the spheric triangle. Graphic investigations of the turos and its sections. Shades and shadows produced by local light. Exercises in pen and brush shading. Instruction and practice in the manipulations of the black- and blue-printing processes.

7. **Descriptive Geometry.** Third year, fall term. Discussion and solution of the usual problems relating to the point, right line, and plane. Generation and classification of lines and surfaces. Discussion and construction of tangents, normals, and asymptotes to lines. Study of osculation, rectification, and radius of curvature. Construction of tangent, normal and asymptotic planes and surfaces. Construction of tangents to curves of intersection. General character-

istics of warped surfaces. Graphic analysis of the hyperbolic paraboloid, the conoid, the hyperboloid of revolution, the cylindroid, the helicoid, etc. Construction of tangent planes to warped surfaces. Construction of tangent hyperboloids.

8. **Perspective and Sketching.** Third year, spring term. Linear perspective is taught as central projection, and is intended to furnish the scientific answers to the questions which constantly confront the student of drawing from the object. It comprises the subjects of vanishing points, vanishing traces, measuring points, cylindric perspective and perspective corrections, shades and shadows in perspective, studio methods. The models used in the work in sketching are objects of utility and beauty, whose forms bear close relationship to geometrical types. The students are led to recognize the facts, relations and principles involved in the apparent form of the object, to note the distribution of light, shade, shadow and reflection on the same, and deduce the general principles which the observation and comparison of these appearances are found to establish. Each student is required to make eighteen original crayon sketches during the term.

9. **Projection Drawing.** Third year, fall term. The third-year work in projection drawing of the science course is similar in character and scope to the second-year work of the engineering course, as described in paragraphs 4 and 5.

10. **Advanced Object Drawing.** Fourth year, spring term. Exercises in pen drawing, crayon and brush shading, architectural and machine drawing, illustrating thesis work, at the option of the student.

11. **Home Architecture.** Third year, winter term. This study is taught by lectures covering the following topics: Location of the home; landscape surroundings; roads, walks, fences, and outbuildings; the individuality of the home; building materials; the historic development of the dwelling-house; foundations and basement; the arrangement of the main-floor rooms; the roof and attic; heating and ventilation; water-supply; water-closets, cesspools, and other drainage problems; paint and varnish; interior decoration; the schoolhouse. Each student is required to design a set of plans, elevations and details of a residence, with modern provisions for heating, ventilation, and drainage.

12. **Architectural Course.** The courses of study for all engineering branches must necessarily be the same with regard to work of a preparatory or general character, but differ with regard to the professional branches. Students who intend to take architecture in place of mechanical engineering may substitute architectural studies for the strictly professional work of the third and fourth years of that course. The department of industrial art is well equipped to teach the branches named. It owns a rapidly growing collection of illustrative building material, complete sets of drawings and blue-prints of most of the Kansas state buildings, a photographic camera, a dark room equipped with running water and ruby light, etc. The substantial buildings of the institution and its complete system of heating and lighting furnish additional illustrative material.

English Language and Literature.

DEPARTMENT AIMS.

1. To create and increase a taste for reading.
2. To develop a careful and discriminating judgment regarding literature and printed matter.
3. To teach by examples the meaning and uses of the various forms of literature.
4. To increase the student's stock of words by an extended experience in word analysis, dictionary use, and language of history.

5. To give him actual practice in the exercise of many forms of composition, and thereby to develop facility in expressing himself.

6. To beget the historic sense while tracing the literature of the Anglo-Saxon race in its cause-and effect relations to the great events and movements of history.

7. To lead the student to a plane in which he may see language and literature as the most complete and most permanent index to the civilization of any people in any age.

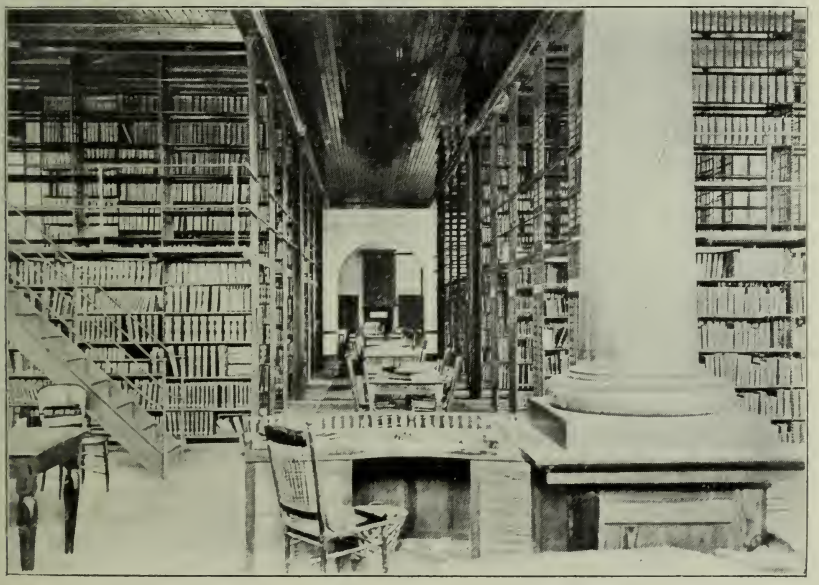
8. To point out the vital connection between literature and life, and to inspire in the student such an appreciation of esthetic values as shall enrich and ennoble his life, be his vocation what it may.

Of the studies described below, Nos. 1, 2, 3 and 5 are required in all courses; No. 6 is required in the agriculture and mechanical and electrical engineering courses; No. 7 is required in the domestic science and general science courses; No. 4 is an elective in the domestic science course.

1. **English Readings I.** First year, fall term. The careful study of a number of standard authors, of first-class interest and easy style. As far as possible, the selections are read and discussed in class. Character sketches, paraphrases, abstracts and analyses are frequently required, so that the students are not only given continual opportunity of rendering and hearing the best thought in the best forms, but are, at the same time, encouraged to develop their own thought and skill in abridged reproductions. With these objective readings, the student learns to distinguish various forms and styles of literature, and to note the qualities of thought and expression.

FALL-TERM CLASS READINGS.

Benjamin Franklin's Autobiography; Irving's Sketch Book; Shakspere's Julius Cæsar; Goldsmith's Deserted Village; Byron's Prisoner of Chillon; Arnold's Sohrob and Rustum; Burns's Representative Poems; Scott's Lady of the Lake; Words of Abraham Lincoln.



BOOK STOCK ROOM.

2. **English Readings II.** First year, winter term. This is a continuation, with new authors, of the work begun in the fall term.

WINTER-TERM CLASS READINGS.

Longfellow's Evangeline; Coleridge's Ancient Mariner; Tennyson's Princess; Emerson's American Scholar, Self-reliance, Compensation; Shakspere's Merchant of Venice; Dryden's Palamon and Arcite; Johnson's Rasselas; Lowell's Vision of Sir Launfal.

3. **English Themes.** First year, spring term. The work of this term is an extension and application of that begun in composition. As far as possible the natural method is pursued. The student is encouraged to write freely upon subjects that appeal to him and that spring spontaneously from the activities and interests of his daily life, without severe restraint at first, or strict regard to the formal rules of rhetoric. When once the fear and dread of writing have been somewhat overcome, and he has learned that, after all, writing is not very different from talking, and that it may become real fun if he choose to make it such, the instructor begins to practice the pruning process more and more strictly. It is believed that successful instruction in this subject depends not so much upon precept as upon example and practice. The chief aim is to keep the student interested and to keep him writing in accordance with the best models of English style. To this end the instruction is made extremely flexible, and freshness and variety of method are constantly sought.

4. **American Literature.** Second year, winter term. The work of this term will consist of a rapid survey of the rise and development of American authorship from colonial times to the present. Due attention will be given to the lives of the representative men of letters, for it is believed that the works of our great writers will not be fully appreciated until the authors themselves have been made to live in the thought and affection of the reader. Many of the shorter poems and sketches of our chief poets, essayists and story writers will be read and discussed in class, while a number of the longer classics will be assigned for outside reading and analysis. The method of instruction will include both text-book and lectures.

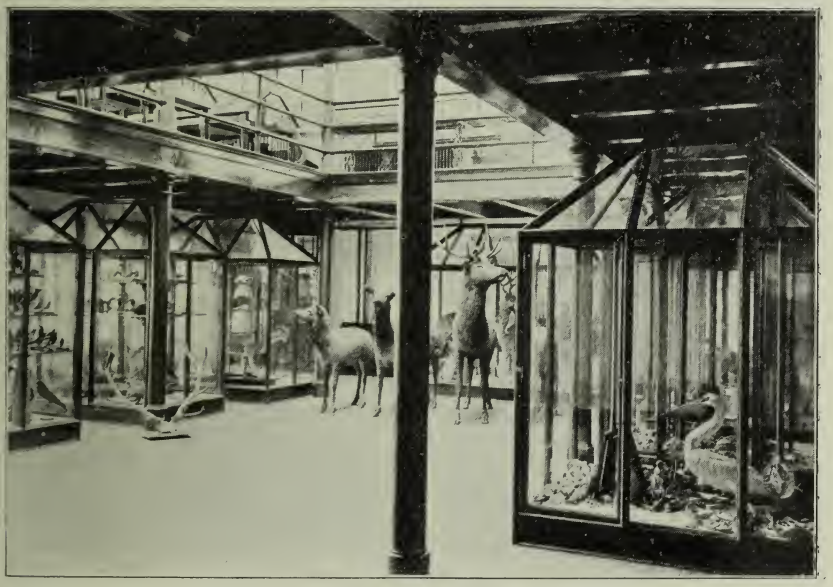
5. **Rhetoric.** Third year, fall term. This includes the philosophy and analysis of the principles involved in the various kinds of literary art. It covers a comparison of the ancient and modern ideas of the subject; the meaning of rhetoric as a science and as an art; the nature and differences between the many kinds of style; the elements which go to make up these; the characteristics and uses of the great divisions — prose and poetry; the grand problem of the material and thought, or of the content of discourse of whatever sort, how to get it, how to handle it; how to limit a subject, how to expand a theme, and how to stop. The work will be partly by lectures, partly by text-book study, partly by examining examples in the standard authors, and partly by written work from the students.

6. **English Literature.** Fourth year, spring term. A brief survey of the principal facts in connection with the rise and development of English literature, together with lectures upon the chief English writers, and a careful study of the thought and literary form of some of the great masterpieces from Shakspere's time to the present.

7. **English Literature.** Fourth year, winter and spring terms. The purpose of this course is threefold: To trace the rise and growth of English literature from its beginning until the present time; to introduce the student in a modest and elementary way to the various aspects and species of literature and

to the artistic problems involved in an appreciative study of the great classics of the language; and, lastly, to study and analyze in chronological order a number of the famous masterpieces of English literature in accordance with sound principles of taste and interpretation. Pancoast's Introduction to English Literature will be taken as a guide, but there will be no slavish adherence to the text. The instruction will be varied by occasional lectures from the professor in charge, and the presentation, from time to time, of thoroughly prepared papers by members of the class. At all times the utmost freedom of discussion will be invited. A few of the great classics will be read, analyzed, and interpreted in class, while others will be assigned for private reading.

Especial stress is all the way laid on finding the elements of beauty and moral power in every production read. All together, it is hoped that this extended excursion along the most considerable stream of the world's literature may prove an inspiration toward noble and earnest life; may show the power of language and the imperishable character of its more beautiful forms; may reveal something of the mode and meaning of social advance and civilization, and be to the student in after-life a well-spring of pleasure and profit.



MUSEUM.

Entomology, Zoology, and Geology.

1. **Entomology.** Second year, spring term. In the work of this term, the intention is to give the student a basis for the intelligent appreciation of the important relations of the science to agriculture and horticulture. A brief view of structural types precedes an outline of insect classification, and a special study of the economic bearings of the subject completes the work. Illustrative material is furnished from the individual collections of the students and from the College museum. Charts, dissections, and drawings from nature are used to illustrate points of value in classification. The pocket lens used in botany is required in this study. Text-book, Comstock's Manual for the Study of Insects, abridged.

2. **Advanced Entomology.** Fourth year, elective. Courses are offered in the following lines: Review of the general subject, with the text-book, Comstock's Manual, extended. This work is desirable as preliminary to work in systematic or economic entomology. Entomological methods, including field-work in observation and collection, laboratory work in preparation, dissection, and preservation, and in the study of life-histories, by the aid of the vivarium. The independent and critical study of systematic entomology, the work in which may be restricted, when desired, to groups of special agricultural importance. Economic entomology, so far as relates to the insects of field and garden, with a special study of methods of repression.

3. **Zoology.** Third year, fall, winter or spring term. This course is an introduction to the study of animals—their structure, functions, habits, origin, relationships, and classification. The student is first introduced to the simplest forms of animals, in which structure and function are expressed in their simplest terms. From the consideration of these he passes in a natural manner to the study of higher and more complex forms, thus obtaining a knowledge of the gradual differentiation of structure and correlative specialization of function so clearly illustrated by the study of types. Special attention is paid to animal ecology, *e. g.*, the relation of animals to their environment, effects of climate, soil, etc.; parasitism, commensalism, symbiosis; natural and artificial selection; the interdependence of species, and the caution which must be observed in interference with these natural relations. This course must be preceded by organic chemistry and physiology.

MEANS OF ILLUSTRATION.

The zoölogical museum, containing numerous representatives of the several classes, especially full in fishes and mollusks of Kansas and in illustrations in economic and systematic entomology. Increasing material in skins, alcoholic and anatomical preparations are available also for the use of the student.

3. **Geology.** Third year, spring term. In this study, required in the general science, domestic science and agricultural courses, attention is chiefly given to the subject of physical geology, with a brief view of the arguments and basis of the historical phase of the science. The illustrative collections embrace ample series of specimens, including the College collection of rocks, the stratigraphical collection, and the collection illustrating phenomenal geology, all from the Ward establishment; the educational collection, from the United States Geological Survey; and a valuable series of rocks and rock-forming minerals from the national museum. To these are added numerous specimens, especially from Kansas localities; and a small but increasing representation of characteristic fossils is also open to the student.

History and Economics.

Whatever occupation in life men may adopt—whether they become farmers, lawyers, teachers, or merchants—they are first of all citizens. For this reason the College offers to its students instruction in those subjects which fit them in a special manner to discharge the duties which they owe to their state and to the nation, and to form an intelligent judgment concerning the public questions which, as voters or perhaps as officers, they will be called upon to meet. The work of this department is arranged with this end in view.

Of the studies described below, all, except No. 6, are required in all courses.

1. **General History I.** Third year, fall term. An outline of European history from the fall of Rome to the beginning of the Protestant reformation. Special attention will be given to the development of institutional life, particularly the growth of the English constitution, the influence of the crusades and the beginning of the renaissance. Text-book, Adams's European History.

2. **General History II.** Third year, winter term. A continuation of course 1, extending as far as the congress of Vienna. The Protestant reformation, thirty years' war, rise of modern nations, development of absolutism, and the cause of the French revolution will be the chief topics here. Text-book, Schwill's Modern Europe.

3. **General History III.** Third year, spring term. Beginning with the congress of Vienna, the chief movements in the history of Europe are studied, with a view to explaining the existing condition of European politics. Particular attention is devoted to the progress of democracy in England and on the continent, especially in so far as it is reflected in the form of government. There is also considerable discussion of foreign topics. Text-book, Signobo's.

4. **Civics.** Third year, winter term. This course is given by lectures and text-books, and involves a study of the formation of the constitution, the organization and methods of the federal, state, and local governments, the most important sections of the state and federal institutions, and a discussion of current topics in politics and legislation. Text-books, Andrew's Manual of the Constitution, Boyd's Cases.

5. **Economic Principles.** Fourth year, fall term. This course is an introduction to the general subject, with elaboration of certain aspects. Care is taken to compare conflicting views and to point out sources of information on all sides of vexed questions. Sound thinking rather than the dogmatic teaching of certain views is the object sought. Text-book, Walker's Political Economy, briefer course.

6. **Constitutional Law.** Third or fourth year, spring term. This course is an elective for those students of the third and fourth years who have had civics. In it, during the first half-term, some of the leading decisions of the supreme court interpreting the constitution are studied. In the second half-term, lectures are given on the principles of international law. Text-books, Black on the Constitution, Cases on Constitutional Law.

Horticulture.

It is the object of the department to give such instruction and practice as will enable students to become acquainted with the general principles of plant culture and the application of these principles. Students in the agriculture course are assigned to three terms of class work (1, 2 and 3), and two terms of industrial work during the course. The work is planned to give them such

knowledge of horticulture as will best help to increase the comforts, beauties and profits of life on the farms. The young women of the domestic science course are assigned to classes in 1 and 4, and may elect one term in ornamental gardening.

Students in the general science course are assigned to 1, and may elect industrials through the last three years of the course, and other subjects during the terms when classes are formed.

1. **Principles of Horticulture.** Second year, fall term. The work of this term presents the principles of the art, introducing the facts underlying methods of propagation, nursery, orchard, and garden treatment; the handling, storing and marketing of fruits. The text-book, Goff's Principles of Plant Culture, is supplemented by lectures.

2. **Vegetable-gardening and Small-fruit Culture.** Third year, spring term. The work of this term is given by lectures, and is devoted to methods of field operations with special attention to seasonable practice, including the use of manures, the application of fungicides and insecticides, the means of securing and maintaining sanitary conditions, and a detailed study of varieties, with reference to their adaptation to local conditions.

3. **Advanced Horticulture.** Fourth year, winter term. The work of this term consists of lectures and library research work on topics assigned by the instructor. The objects of the work of this term are to present specific methods of propagation, the means of plant improvement, the influence of culture and manures, the management of hotbeds and various glass horticultural structures, and the general work of forcing vegetables and flowering plants. The library research work gives the student opportunity to become somewhat familiar with the history of horticulture and to widen his acquaintance with horticultural works and reports.

"LOVERS' LANE."

4. **Floriculture.** Third year, winter term. This subject, open to young women of the domestic science course, includes general greenhouse work in propagating, potting and caring for plants, window gardening, the growing of plants in the open air, the treatment of bulbs, annuals, and perennials, and the destruction of plant pests. Practice work alternates with lectures on these topics.

5. **Industrial Horticulture.** Second year, fall term. The practical work of this term is largely devoted to the seasonable operations of gathering and storing seeds, fruits and vegetables, the preparation of vegetables for market, the winter protection of garden plants, small fruits and ornamentals, fall work in orchard and vineyard, and selection and preparation of material for propagation.

6. **Industrial Horticulture.** Third year, winter term. The practical work of this term is devoted to indoor methods of propagating fruit and ornamental trees and shrubs, winter pruning of fruit and forest-trees, and forcing-house work with vegetables.

ELECTIVES.

Pomology. Fall term. The work of this term comprises a careful study of varieties of fruit, the means of identification, their variation, in plant and fruit, under different conditions of soil and culture, and their botany and history. The same work with the small fruits may be carried on during the spring term.

Elementary Forestry. In the work of this term a study is made of the methods of propagating and planting forest trees, the identification of trees and tree seeds and the value of various species in different soils and situations.

Advanced Forestry. The work on this topic is made more or less detailed according to the opportunity of the student to devote one or more terms to the subject. The value of the different trees for specific purposes, windbreaks, posts,

MAIN ENTRANCE.

fuel, and timber; their rate of growth, distance for planting, ability to tolerate shade, the methods employed by various governments for the protection and extension of forests and microscopic examination of the structure of woods are among the topics considered.

Ornamental Gardening. The principles of this art are studied in relation to their application to the planning and planting of home grounds, streets, parks and cemeteries. The value of the various trees, shrubs, annual and perennial herbaceous plants for securing desired effects are taken up in detail with special reference to their use under differing climatic and soil conditions. Graduate students or those electing more than a single term's work in this subject, study in fuller detail the foregoing topics and also the propagation, training and general culture of the various plants.

Industrial Horticulture. Students who elect practical work in horticulture are given more detailed instruction in the work outlined in the regular industrial work, and to more advanced work in orchard, garden, nursery, and forcing-house, and in the use of spraying apparatus. Special industrial work in floriculture may be arranged for by either young men or young women. Graduate students who elect horticulture as their major study may devote more than one term to work in the subjects mentioned, and may have other classes arranged in orchard management and the means of maintaining sanitary conditions. A term's work in the literature of horticulture gives added opportunities for acquaintance with standard works and writers upon various subjects.

MEANS OF ILLUSTRATION.

Orchards comprising seventy-five varieties of apples, forty of plums, thirty of peaches, fifteen of cherries; plantations of native fruits; small-fruit plantations, containing many varieties; vineyards containing 175 varieties and six forms of trellises; a large collection in the arboretum and on the grounds of shrubs and timber, shade and ornamental trees; about thirty acres of forest plantings; fifteen acres of nursery and garden; a large collection of native and foreign plants, in greenhouses; a collection containing 200 models of fruit; a grape herbarium containing leaves, canes, seeds, and photographs of the fruit of 175 varieties of grapes; collections and specimens of woods; herbarium of fungous diseases, and numerous charts. The general library and the department library furnish ample opportunity for research work in various lines.

Mathematics.

It is the aim of the department of mathematics to give a thorough training in a small number of subjects, and to develop in the student the ability to attack new problems, rather than to burden his mind with a large number of facts or special methods. It is also characteristic of the methods of the department that an attempt is made to give the mathematical subjects a touch of human interest by directing the attention of the student to the historical development of these subjects. The following statement contains a brief description of the courses to be given next year:

1. **Algebra II.** First year, fall term. Text-book, Wells's New Higher Algebra. Simple equations with more than one unknown quantity; involution, evolution, theory of exponents, radicals, and quadratic equations with one unknown quantity.

2. **Algebra III.** First year, winter term. Quadratic equations completed, ratio and proportion. Arithmetical and geometrical progression.

3. **Geometry I.** First year, spring term. Text-book, Gore. First, second, third and fourth books, with exercises for original demonstration.

4. **Geometry II.** Second year, fall term. Continuation of course 3. Fifth, sixth, seventh and eighth books, treated as before, with special attention to original work.

5. **Trigonometry.** Second year, winter term. Text-book, Wentworth. Solutions of plane triangles; essentials of goniometry; applications to surveying and navigation.

6. **Surveying.** Second year, spring term. Field work, two hours per week. Use and adjustment of instruments. Chaining, leveling, and land surveying. The data for a definite series of problems laid out during course in trigonometry of the winter term are obtained in the field; results platted and computed.

7. **Higher Algebra.** Second year, spring term. Text-book, Wells's New Higher Algebra. Binomial theorem, undetermined coefficients, logarithms, and general theory of equations.

8. **Analytical Geometry.** Third year, fall term. Text-book, Wentworth. Rectangular and polar coördinates; the straight line, circle, ellipse, parabola, hyperbola, general equations of the second degree.

Calculus. Osborne's Calculus, with lectures.

9. Third year, winter term. Differentiation, with the usual applications to maxima and minima, mechanics, series, etc.

10. Third year, spring term. Integration, with applications.

In addition to the above, courses in theory of equations, differential equations, theory of functions or other branches of higher mathematics may be given to graduate students, or to undergraduates who are able to carry extra work.

MACHINE SHOP.

Mechanical Engineering.

In the mechanical engineering course all studies below are required but No. 10.

In the agricultural course, studies 1, 2, 3 and 10 are required.

In the general science course, 1, 2 and 3 are required, and additional shop-work is optional.

In the electrical engineering course, all studies are required except 10, 21, 24, 26, 30.

1. **Woodwork.** First year, fall term. A graded set of problems in joining, a working to dimensions, together with proper use and care of bench tools. Advanced practice in general woodwork, carpentry, cabinet-making, turning, and pattern-making; special attention being given to the making of patterns for machinery and apparatus to be constructed in the shops.

2. **Foundry.** First year, winter term. Foundry practice is given in both floor and bench molding, including the making of cores, brass and iron castings, and the mixing of special alloys. Cupola practice and the making of machine castings for shop use are included.

3. **Blacksmithing.** First year, spring term. A graded set of problems designed to teach the operations of drawing, upsetting, welding, and forming, accompanied with instruction in the care of fires, and the behavior of iron at different heats.

4. **Blacksmithing.** Second year, fall term. Advanced work in the forging of iron and the manufacture of steel tools. Instruction is given in tempering, case-hardening, and annealing.

5. **Kinematics of Machinery.** Second year, winter term. An elementary course in mechanisms, particularly the principles involved in the construction of gears, cams, and quick return motions. Text-book: Jones's Machine Design, volume 1.

6. **Machine-shop.** Second year, winter term. Practice in chipping, filing, scraping, and laying out work from drawings.

7. **Shop Lectures.** Second year, winter term. Lectures are given twice a week on the construction, use and care of shop tools, and on shop methods.

8. **Mechanics.** Second year, spring term. A course in elementary mechanics, including the laws of motion, force, work, and energy, together with the composition and resolution of forces. Preparation required, trigonometry. Text-book, Dana's Elementary Mechanics.

9. **Machine-shop.** Second year, spring term. A continuation of the work of the previous term, with exercises in lathe work.

10. **Agricultural Mechanics.** Third year, fall term. Advanced instruction in machine-shop is given to agricultural students. This instruction includes bolt making, grinding, sharpening, screw setting, and repairing of agricultural machinery. It is supplemented by lectures and practical instruction in the operation of traction-engines.

11. **Mechanical Drawing.** Third year, fall term. Exercises in lettering, shading, and the drawing of simple mechanisms.

12. **Machine-shop.** Third year, fall term. Instruction in advanced lathe work, gear cutting, and boring.

13. **Mechanical Drawing.** Third year, winter term. The design of cams, gears, and quick return motions.

14. **Machine-shop.** Third year, winter term. Advanced work on lathes, planers, milling-machines, and boring-mill, including tool making.

15. **Machine Design.** Third year, spring term. A study of the principles involved in design, and the solution of the problems. Preparation required, kinematics and mechanics. Text-book, Jones's Machine Design, volume 2.

16. **Mechanical Drawing.** Third year, spring term. The work in drawing accompanies the class work in machine design.

17. **Engine Running.** Third year, spring term. The work of this term consists of instruction in the operation and care of boilers and engines, and exercises in steam-fitting.

18. **Applied Mechanics.** Fourth year, fall term. The application of the principles of theoretical mechanics to problems arising in practice. Preparation required, third year machine design and calculus. Text-book, Goodwin's Applied Mechanics.

19. **Steam Engineering.** Fourth year, fall term. A course in elementary thermodynamics, valve gears, and steam-boilers. Preparation required, calculus. Text-book, Kinealy's Steam-engines and Boilers.

20. **Machine Design.** Fourth year, fall term. The design of the valve motion and reciprocating parts of the steam-engine. The work in the drawing-room is designed to accompany the classroom work in steam engineering.

21. **Engineering Laboratory.** Fourth year, fall term. Experiments in valve setting, engine tests, efficiency of hoists, gage tests, etc. Preparation required, third-year mechanics and steam engineering. Text-book, Smart's Laboratory Practice.

22. **Machine-shop.** Fourth year, fall term. The time of this term is devoted to the building of a small machine, or making the parts of a large one.

23. **Applied Mechanics.** Fourth year, winter term. A continuation of the work of the previous term, including a study of the strength of materials.

24. **Engineering Power Plants.** Fourth year, winter term. A course in the construction, management and operation of prime movers, including a study of the construction of shop, buildings, and power-houses. Preparation required, steam engineering. Text-book, Hutton's Mechanical Engineering Power Plants.

25. **Machine Design.** Fourth year, winter term. The design of a complete machine or engine, an application of the principles studied in steam engineering and applied mechanics.

26. **Engineering Laboratory.** Fourth year, winter term. A continuation of the previous term's work, with practice in running boiler tests. Preparation required, steam engineering.

27. **Machine-shop.** Fourth year, winter term. A continuation of the previous term's work.

28. **Applied Mechanics.** Fourth year, spring term. A course in the mechanics of fly-wheels and governors, and a study of the laws of friction.

29. **Hydraulics.** Fourth year, spring term. The term's work includes a study of the principles of hydrostatics and the action of water-motors.

30. **Engineering Design.** Fourth year, spring term. The design of a power plant or factory, based upon the work of the previous term in engineering power plants.

31. **Thesis.** Fourth year, spring term. Engineering students are required to present, for graduation, a suitable thesis on some subject relating to their work. Practice in the machine-shop is omitted in this term, and it is considered that the thesis work should occupy at least ten hours per week.

EQUIPMENT.

The shops of the Kansas State Agricultural College are furnished with the best modern machinery and tools for working both wood and iron, and are in operation six days per week throughout the year.

Wood Shop.—The wood-working room is 40 x 103 feet, contains 220 separate kits of tools, and benches for fifty students in each class; lathes, planer, circular saw, friezer, mortising machine, grinders, and tool room containing all kinds of wood-working tools for general use, together with complete outfit of wheelwright's tools.

Machine-shop.—This room is 40 x 80 feet, contains twelve fourteen-inch engine-lathes, one sixteen-inch combination engine and turret lathe, speed lathe, Gray planer, Hendy-Norton shaper, Brown & Sharpe No. 2 universal milling-machine, Walker universal grinder, special drill grinder, key seater, bolt-cutter, pipe machine, vertical drills, fifty-one inch vertical turning and boring mill, benches and tools for fifty students, and a complete stocked tool room, equipped with the finest modern tools.

Blacksmith Shop.—This rooom is 40 x 50 feet, equipped with twenty-four forges fitted with power exhaust. Each forge has anvil and complete set of smithing tools. In addition to the general tools for a fully equipped blacksmith shop, there are also installed here power punch and shears, cold saws, and a number of pieces of special apparatus built by the department.

BLACKSMITH SHOP.

Iron Foundry.—This room is 40 x 50, equipped with two-ton cupola, core oven, an exceptionally large number of flasks, ladles, traveling hoists, etc. The foundry makes all castings for machine building, together with boiler fronts, grate-bars, and special repair work.

Brass Foundry.—This room is 16 x 30 feet, with crucible furnace flasks, and complete equipment for bench and floor molding. The product consists of bearings, friction metal, valves, fittings, etc.

Pipe-fitting Room.—This room is 18 x 50 feet, contains a motor-driven Jarecki pipe machine, and is completely equipped with tools used by steam-fitters. Practice in pipe-fitting and steam-fitting is given.

Engineering Laboratory.—This room is 35 x 40 feet, and contains a great variety of apparatus, among which may be specified a 100,000-pound testing machine, both automatic and autographic; Flather transmission dynamometer, for determining the power required by various machines; complete cement-testing outfit; absorption brakes; steam indicators; gauge-testing apparatus, and a variety of special machines for the testing of material; also, thermometers, calorimeters, speed indicators, etc. The very complete boiler- and engine-room adjoining the laboratory afford special opportunities for the work relating to steam engineering.

Power Plant.—The boiler-room contains five 60 horse-power horizontal-return-flue boilers, one 100 horse power boiler, pumps, steam-traps, etc. These boilers are used for the generation of steam, both for power and heating purposes, and are independently connected, that they may be tested individually or in groups. The engine-room is equipped with one 100-horse-power, medium-speed engine, directly connected to a 60 K. W. multipolar generator, with marble switchboard and complete apparatus; one 50 horse-power Ball & Wood engine, belted to bipolar generator, with switchboard; one 10-horse-power Atlas engine; one 5-horse-power generator, built in the shops, for testing purposes; one Shipman coal-oil engine, and several small dynamos for testing purposes. In connection with the power plant is a very complete rope-driven installation, especially designed for the department.

Classrooms.—On the second floor of the wood-working department are found the classrooms, drawing rooms, photographic rooms, paint room, varnish room, and pattern-storage room.

DRILL GROUND.

Military Training.

Tactics. During the winter term of the first year the cadets have one lesson per week in the "Drill Regulations of the United States Army." This includes a study of the soldier, the squad, and the company, and their organization and movements.

Military Science. Three hours per week are devoted to the study of the elements of military science during the winter term. The recitations and lectures embrace the elementary principles that govern the art of war, the disciplining of troops, military law, the use of small arms, and, in fact, give a practical knowledge of applied military science, such as an officer of volunteers should be conversant with when called into the field.

Infantry. Special attention is given to setting-up exercises, school of the soldier, company, and battalion, and such ceremonies as parades, reviews, inspections, and guard mounts.

Artillery. Manual of the piece, mechanical maneuvers, and practice firing with blank cartridges.

Target Practice. A good range gives excellent opportunity for rifle practice, which receives considerable attention.

Signaling. A class is instructed each year in the sending and receiving of messages by the flag system in use in the regular army.

The national government has supplied the College with 245 cadet rifles and an equal number of sets of infantry accouterments; also, two three-inch field-guns and carriages. Swords, target supplies and annual issues of ball and blank cartridges are also received from the general government. Each student buys his own suit, to be worn whenever he pleases. The following is a description of the suit: "This suit to consist of regulation blue cap with college emblem, blue blouse cut and trimmed in officers' style, gray trousers trimmed with black mohair braid."

War Department Record. At the close of the year the names of the three cadets most distinguished in military science and tactics are reported to the war department for insertion in the United States army register, and also to the adjutant general of the state.

Organization. The cadets are organized into a battalion of four companies and a band. The commissioned officers are chosen from the Senior and Junior classes, and the non-commissioned from the Sophomores. All students in the regular courses below the third year are required to take drill unless excused for physical disability.

Music.

Recognizing music as a factor in education which is practical and elevating, and believing that the germ of artistic faculty exists in every normal person, the following unique and generous provisions have been made for its introduction into the several courses.

Pupils may take music for a single term or more. A full course, extending over four years, includes theory, notation, singing, voice culture, harmony, composition, instrumentation, and technical drill on one or more instruments. The College pianos and organs (limited in number) are used for daily practice; the other instruments must be provided by the pupils using them.

Instruction in music is furnished free, under the direction of the professor in charge, to all pupils in the College, as follows:

1. **Singing, Notation and Theory.** Classes will be organized at such periods as will best accommodate the pupils interested.

2. **Instrumental Music, Musical Theory, and Harmony.** Classes will be organized, for pupils in the regular courses, at such periods as will best accommodate them, under the following conditions:

a. **Elective.** Music may be taken as an elective for the year in place of oratory by the members of the domestic science course. Students taking it as an elective will be required to furnish their own instruments, if they wish to practice more than one period.

b. **Industrials.** It may be taken as an industrial by ladies only, in connection with their notation and vocal music, after the required industrials of the first year, and after passing an examination equivalent to two terms in vocal music, in which case one period's daily practice at the College or at home is required.

c. **Extras.** It may be assigned as an extra to students, ladies or gentlemen, who do well in their general course of study, on the same conditions as above, excepting as to practice, when students may furnish their own instruments.

d. **Optional.** All music is optional—is taken at the choice of the student—but after assignment regular attendance is required as at other classes. Class organization shall be wholly under the control of the professor of music.

e. **Musical Organizations.** Each instrument has a distinct function in the science of tonal expression, and only in their combination are the finest effects in the coloring of the melody, harmony and rhythm procured. This combination is made possible in the musical department by the number of pupils and the variety of instruments studied. All students who are sufficiently advanced to join the College glee club, College orchestra, mandolin, guitar and banjo club, elementary band, or the College band, may become members by assignment.

CADET BAND.

f. **Public Exercises.** Music for commencement week and other public College exercises is furnished by the musical department, under the direction of the professor in charge, and all students in the department shall be subject to his call to assist in furnishing the same.

THE FOLLOWING COURSES ARE OFFERED.

The Voice. In the study of this instrument, the most natural and universal means of musical expression, notation is taught in connection with the establishment of a pure tone, in which there shall be resonance, volume, flexibility and expression. The instruction will include the rudiments of music, notation, sight-reading, ear-training, theory, harmony, voice culture, methods of teaching, practice in teaching, and drill in solo, quartet and chorus singing. Texts, Frederick Root's Elementary Exercises and Analytical Studies, Brown's Elementary Charts, Emery's Elements of Harmony, Weitzman's Theory, Randegger's Singing, Viardot-Garcia's Hour of Study. Select studies from Concone, Vaccai, Bordogni, Marchesi, and other standard works.

The Piano. In the study of this instrument, which occupies a place of so much dignity and importance in every musical education, great attention is given to every detail of *technique* and to the development of a correct touch, which is so necessary in giving intelligent expression to musical thought and feeling. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, thorough drill in scale and Arpeggio playing, and exercises in accent, rhythm, and expression. The curriculum is chosen from the works of the standard composers, not omitting modern European and American writers, who best represent the modern spirit and progress. The following outline of a course of study, made with reference to the musical value of the selections, as well as to the special necessities of the pupil, may be followed or varied by the professor in charge. Text, selections from the following works or their equivalents:

a. First year.—Studies in position and touch. Plaidy, Czerny, Koehler, Mathew's Standard Studies I, II, III, Mason's Touch and Technic. Sonatinas by Clementi. Modern Pieces. Memorizing.

b. Second year.—Studies in development of technique, from Czerny, Heller, Loeschhorn, Lemoine, Mathew's Studies IV, V, VI. Sonatinas by Kuhlau. Mason's Touch and Technic. Cramer's Studies. Inventions by Bach. Modern Pieces. Memorizing.

c. Third year.—Kullak's Preparatory Octave School. Mathew's Studies VII, VIII, IX. Etudes by Moscheles. Clementi's Gradus ad Parnassum. Sonatas by Mozart, Beethoven. Modern Pieces. Memorizing.

d. Fourth year.—Kullak's Octave School. Tausig's Daily Studies. Mathew's Studies X. Bach's Preludes and Fugues. Sonatas and Concertos by Mendelssohn, Weber, Chopin. Concert pieces by Liszt, Schumann. Memorizing.

The Cabinet and Pedal Organ. The cabinet organ has a field of its own, and should have appropriate treatment, in many respects different from the piano. When properly played it is of much value in church and social circles. It is here taught so as to be preparatory to the piano, the pedal and pipe-organ. Text, Standard Schools. Selected studies and pedal studies, chorals, hymns and recreations suitable to the instrument.

The Violin. Particular attention is given to correct position, intonation and bowing; also to solo and orchestral playing. Text, selections from the following works or their equivalents:

a. First Year. Methods by Wichtl, Henning, and De Beriot, I. Exercises by Dancla, Pleyel, Papini, and easy solos. Memorizing.

b. Second Year. Schradick, book I; Kayser, book I; David, I; De Beriot, II, III. Art of bowing, Tartini; etudes of Kayser and Mazas, and easy solos. Memorizing.

c. Third Year. Schradick's school of technic; David, II; etudes of Kreutzer; sonatas by Mozart. Modern pieces. Memorizing.

d. Fourth Year. Hoffman's orchestra studies. Beethoven's sonatas. Solos by De Beriot, Leonard. Fantasias by Dancla, Singelee. Modern pieces. Memorizing.

Orchestral and Band Instruments. Similar courses of instruction are given on all the more important orchestral and band instruments — string, wood-wind, and brass — also, mandolin and guitar. Opportunities are also furnished advanced pupils for orchestral, band, quartet and accompaniment playing. Text, selections from the standard methods, studies and recreations suitable to the instrument.

Musical Theory, Composition, Instrumentation, and History of Music. The aim of these courses is to give the pupil an intelligent conception of music as a science and an art and to lay a foundation for later studies which he may undertake in the field of artistic performance and of original work in musical composition. The instruction given includes theory, notation, harmony, counterpoint, composition, instrumentation, analysis of form and style, and musical history. Texts, Elson's Theory of Music, Brown's Prismatic Charts, Berlioz's Orchestration, Marx's Composition, Prout's Instrumentation, Mathews's History of Music.

LANE NORTH OF SHOPS.

Oratory.

The work of this department is arranged with the special purpose in view of training students to gain knowledge, and then to make that knowledge of benefit both to themselves and to others. One of the fundamental principles of life is that "we must have before we can give; we must receive and possess before we can present; impression must precede and determine expression." The entire work of this department is based upon the principle that *all expression is the result of thought.* The greatest educational need of men and women to-day is the ability to present the knowledge that is theirs in an intelligent manner. We do not train students to read and recite as an end, but use the reading and reciting as a means to aid in the development of natural delivery of original thought. The *aim* of all work in oratory is *naturalness*, and in order to attain this, nature is studied and her methods are adopted.

The course here outlined is arranged in the logical order of the student's needs, and is as thorough and comprehensive as the time will permit. Studies Nos. 1 and 2 are given during two terms of all courses. Nos. 3 and 4 are given during two terms of the domestic science and general science courses, and the fundamental principles of each are given in connection with 1 and 2 in the other courses. No. 5 is required in the junior and senior years in all courses. For the amount of time required in each course, see "Schedule of Courses of Study" on another page of this catalogue.

1. **Oratory I.** Vocal Expression. In the arrangement of studies vocal expression is regarded as of primary importance, and is placed first because it brings the student to a study of himself and of nature and her processes. Vocal expression is the manifestation of the action of the mind through the voice. Observations are made of the action of the mind in thinking, the effect of thought upon the voice, and an effort is made to strengthen the thinking powers and to cause the voice to respond more freely to thought, feeling, and emotion. The aim is to stimulate the student, so that expression will be from within outward. Simple, direct and forceful expression through natural and easy modulations of the voice, is the standard. Definite problems are assigned to each student upon specific points of development.

2. **Oratory II.** Extemporaneous Speaking and Debate. It is of the utmost importance that students should be trained as early as possible to think and speak upon their feet. Many there are who show great ability in the delivery of the productions of others, or even their own, after having committed them, but who cannot give even so much as an introductory sentence extemporaneously. Few are the opportunities for delivering a committed speech, but numberless are the occasions that demand the expression of thought extemporaneously. Extemporization requires the most thorough preparation, which, added to the spirit of the occasion, will result in a spontaneous outburst of eloquence that is not possible in the delivery of committed matter. It is placed second in the course only because a student must first learn to think and to reveal thought, before attempting to enlighten or persuade others.

3. **Oratory III.** Vocal and Pantomimic Training. Voice is studied as a musical sound made by an instrument which acts as an agent of the mind. It is modulated by thought, feeling, and character, and its beauty and harmony depend upon the correct use of the instrument. Perfect music is impossible without a perfect instrument, and since the whole body is included within this vocal instrument it is necessary that work in harmonic and pantomimic training should go hand in hand with vocal training. Technical exercises are given for

the eradication of all faults, the securing of control, the stimulation and harmonious improvement of mind, voice, and body.

4. **Oratory IV.** Imagination and Dramatic Instinct. "Imagination," says Fénelon, "is the only creative faculty of the human mind." The aim of this course is to bring the mind of the student into direct contact with the noble works of literature; not merely to analyze the thought and construction, but stimulate and awaken the faculties in the student, which were awake in the writer, to study the processes of the mind in creating and assimilating ideas for the true artistic interpretation of literature by the living voice. It is intended as a forerunner and companion to the study of literature by making practical vocal interpretation one of the chief means of coming to a realization of the spirit of literary work. The principle followed is that "art can be studied only as art and by means of art."

5. **Public Speaking.** Each junior appears in chapel before the whole student body once during the year with a declamation. Each senior appears in chapel once during the year with an oration written upon a subject of his own choosing. All preparation for chapel work is done under the direction of the professor of oratory, and private rehearsals are given during the week previous to the public appearance. This work is required of *all* students before graduating, regardless of which course they are taking.

Philosophy.

1. **Logic.** Third year, winter term. The art of reasoning correctly is aided by a study of systematic logic, both deductive and inductive. Special prominence is given to methods for exact observation and experiment and correct principles of classification. The previous researches and experience of the students are made to illustrate these principles. Text-book, Creighton.

2. **Psychology.** Fourth year, spring term. A short course in psychology gives the general principles of intellectual and moral philosophy. Sensation, apperception, perception, memory, imagination, thought, feeling and volition are topics of explanation and analysis. Theories of right and wrong and correct principles of action are made the means of a clear understanding of individual responsibility, with special attention to personal rights and duties. Topics are assigned for research, to be presented in thesis form at the close of the term. Text-book, Halleck.

Physical Training for Women.

The maintenance of a vigorous constitution throughout a young woman's college life is of vital importance. Strength and vigor of brain activity depend upon bodily health and strength. Development, both mental and physical, each to attain its purpose, should go hand in hand. That this perfect development may be realized, a gymasium for women, well equipped with apparatus, baths, lockers, etc., has been provided, and a well-regulated system of physical training is successfully operated.

The Swedish system of educational gymnastics has been adopted for general class work, and medical and corrective exercises are given to such as need them. The object of the work is to promote health, strength and symmetry of body, and also to correct physical defects.

Daily classes are held in light gymnastics—free standing work, marching, fancy steps, drills with bells, clubs, and wands, with musical accompaniment; heavy gymnastics, including chest weights, horse, bars, flying rings, etc.; gymnastic games.

All young women of the College have access to the privileges of the gymnasium, and all below the third year are required to take the work, except such as are found physically unable to engage in it.

Before entering upon the work a physical examination is made by the director of the gymnasium. The examination includes measurements of physical proportions, and takes note of the conditions of the heart and lungs. From this examination an anthropometric chart is platted, showing size, strength, and development, and defects in comparison with the normal standard. At the close of the College year a second examination is made, and measurements taken, and comparison is made to show improvement.

Physics and Electrical Engineering.

In the following courses instruction is given by text-books, lectures, and laboratory work. Attention will be called to the general applications of the principles learned. In all courses special lines of reading will be encouraged, and investigation and experimentation, so far as the equipment of the department will permit.

In all the general courses it is the purpose of the department to thoroughly ground the students in the fundamental principles of the science. In the technical courses it is the aim to give the student instruction and training along more specialized lines, thus fitting him for his chosen field of work.

Of the studies described, Nos. 1, 5 and 6 are required in the agriculture, domestic science and general science courses; Nos. 1, 2, 3 and 4 in the mechanical engineering course; and all except Nos. 5 and 6 in the electrical engineering course.

1. **Elementary Physics.** First year, spring term. This term's work is intended to give the student a general view of the subject, with such laws and principles as will be useful to them in scientific studies. The importance of accurate observations and conclusions will be impressed. Text-book, Carhart and Chute's Elements of Physics.

2. **Heat.** Second year, spring term. Three hours per week. A thorough study of the principles of heat of importance to the engineer, and an introduction into the elements of thermodynamics. Experimental demonstrations will be given from time to time. Problems and data from experiments performed in class will be frequently assigned to the students. Text-book, Carhart's University Physics.

3. **Electricity and Magnetism.** Fourth year, fall term. A thorough study of magnetism and electricity, with advanced laboratory practice. This course is intended primarily for engineers. Students should have trigonometry and calculus for this course. Library and other reference work will also be required. Text-book, Carhart's University Physics.

4. **Sound and Light.** Fourth year, winter term. Advanced work on sound and light, with laboratory practice. This completes the mechanical engineer's course in physics. Trigonometry is required, and it is recommended that the student take calculus before taking this course. Outside reference work will be assigned. Text-book, Carhart's University Physics.

5. **Mechanics, Sound, and Heat.** Fourth year, fall term. It is recommended that the student have trigonometry. A thorough study of the laws of falling bodies, forces, the principles of work and energy, the laws of sounding bodies, calorimetry, etc., will be made. Problem work is required. Lecture demonstrations will be given, and data taken from which students will make computations. Library and outside reference work are frequently assigned. Text-book, Hasting and Beach's Genral Physics.

6. **Light, Electricity, and Magnetism.** Fourth year, winter term. This course is a continuation of No. 5. The fundamental laws and phenomena of light, electricity and magnetism will be studied and their practical application noted. Problem work is emphasized. Text book, as in No. 5.

7. **Electrical Measurements.** Fourth year, fall term. This course includes practice on the distribution of magnetism, effects of temperature on magnetism, determination of resistance by various methods, of galvanometer constants, measurements of currents, and electromotive force. Experiments are selected from various laboratory manuals. All engineers are advised to take this course.

8. **Dynamo-electric Machines.** Fourth year, winter term. This course consists of the fundamental theory of such machines, of their various forms, and of the practical design and operation of electrical apparatus and machinery. Text-book, Slingo and Brooker's Electrical Engineering.

9. **Electrical Laboratory.** Fourth year, winter term. Advanced electrical testing—the efficiency of dynamos and motors, characteristics of dynamos, transformers, coefficients of self and mutual induction.

10. **Machine Design.** Fourth year, winter term. Practice in original designing based on previous work.

11. **Applied Electricity.** Fourth year, spring term. Study and practice in the application of electricity to bells, telephones, annunciators, calibrating and testing electrical instruments, applications of graphical methods in testing electrical apparatus, etc.

12. **Electric Power Transmission.** Fourth year, spring term. Lectures on central station design and management, electric traction, and transmission of power.

13. *Elective Courses in Agricultural Physics.* Discussions of the application of physics and physical principles to agricultural problems. Open to students of agriculture. Based on King's Physics of Agriculture.

Preparatory Department.

Inasmuch as many students seek admission to the College with inadequate preparation in one or more of the subjects required for entrance, it has been found necessary to establish a preparatory department, in which such deficiencies can be remedied. The work in this department is under the direction of a principal, with whom are associated two assistants and a number of student assistants. Some of the preparatory classes are also conducted by the heads of the College departments. Instruction is given in all studies required for admission to the College. See terms of admission, page 91.

1. **English Grammar.** The aim is to lay a good foundation for the further study of English. Recognizing the fact that grammatical drill develops in students logical habits of thought, besides giving them greater command of language, special attention is given to the analysis and construction of sentences and to the principles of elementary composition. Two classes are formed each term, the B class completing the work in two terms: the A class in one term. Text, state book.

2. **English Composition.** One term, based on Herrick and Damon's Composition and Rhetoric. The text is completed to part IV, special attention being given to the study of usage and diction. In addition to the work of the text, each student is required to write one composition each week, which, after being read before the class, receives corrections from the instructor in charge.

3. **Physiology.** This is elementary work, intended to prepare students for the more advanced work given in second year of the agriculture, domestic science and general science courses. As far as possible, models, skeletons and dissecting material is made use of in the classroom. Martin's Elementary Physiology is used as a text.

4. **Bookkeeping.** This is not an extended course, but sufficient instruction is given to enable the individual to open and close accounts in ordinary business transactions. Text, Stevenson.

5. **Arithmetic.** Instruction is given in the principles that underlie the various classes of problems, thus teaching the student to rely upon himself, not upon rules. Text, state book.

6. **Algebra.** This includes the fundamental operations, least common multiple, greatest common divisor, and simple equations of the first degree containing one unknown quantity, equivalent to 131 pages of the text, Wells's New Higher Algebra.

7. **United States History.** The leading facts, causes and sequences showing the growth of our country and national history are studied with a view to develop true patriotism. Text, state book.

8. **Geography.** Because of recent history, special attention is paid to the geography of the United States, its possessions, products, resources, methods of transportation, etc. Text, state book.

9. *Other Branches of Study.*—Instruction is also given in spelling, reading, and writing.

Printing.

The printing department, in the main building, occupies six large rooms, viz.: Superintendent's office, composing-room, pressroom, folding room or bindery, stock-room, and storeroom, all well lighted, amply ventilated, and heated by steam.

1. **Instruction.** The lessons embraced may be briefly summarized under these suggestive topics: The elements of news, book and job composition and imposition; proof-reading and correcting; plain and color presswork; adaptation of various grades of inks and papers; newspaper and magazine folding; mailing; tableting of stationery, and pamphlet stitching and stapling. The instruction is of that character in which individual advancement is always taken into account, and opportunity is extended for individual growth in the knowledge of those principles which are of practical utility in the every-day work of a printing-office. Occasion for the gaining of experience and acquirement of skill is supplied by the weekly publication of the *Industrialist* and the *Students' Herald*, the execution of the wide range of job printing needed to furnish the various College departments with blanks, lesson outlines, and stationery, and the College societies with programs, notices, etc.; thus furnishing a greater range of work for instruction than is ordinarily found in the average printing-office.

2. **Equipment.** Thirty pairs of cases; large fonts of six-point, eight-point and ten point Roman type and italics; a good assortment of wood and metal job type and brass rule; a Babcock cylinder press and a new Liberty quarto-medium job press, run by electric motor; a Gordon eighth-medium job press; mitering, rule-curving and stapling machines; wire stitcher; paper-cutter, cabinets, stands, imposing stones, etc.

STUDENTS' HERALD STAFF.

Veterinary Science, Bacteriology, and Physiology.

1. **Hygiene.** First year, fall term. One lecture a week on personal and public hygiene.

2. **Physiology.** Second year, winter or spring term. Advanced course in human anatomy and physiology; the gross and microscopic structure of the various tissues and organs of the body, and their functions; the various changes, physical and chemical, associated with nutrition, and the conditions that favor the healthy development of the body. This must be preceded by elementary physiology, chemistry I, and elementary physics.

3. **Hygiene of Farm Animals.** Third year, fall term. Breeding and raising of healthy animals; causes of disease and how prevented; disinfection, quarantine, and vaccination; hygienic quarters, food, and methods of feeding; exercise; water; injurious and poisonous foods; parasitic diseases and treatment. Must be preceded by chemistry and advanced physiology.

4. **Comparative Anatomy.** Fourth year, fall term. Comparative anatomy of domestic animals, with special reference to disease, conformation, and unsoundness; general symptoms of disease; common medicines, their action, doses and methods of giving; wounds and their treatment; surgery. Must be preceded by chemistry, advanced physiology, and hygiene of farm animals.

5. **Bacteriology.** General science, third year, spring term; domestic science and agriculture, fourth year and all terms. These courses consist of the morphology, classification and physiology of bacteria; relation of external conditions to bacterial development; disinfectants and disinfecting; bacteriological technique, preparation of culture media, staining, isolating and identifying of bacteria; general fermentation, putrefaction, and decay. In addition, the different courses have the following:

General Science.—Bacterial action on foods, nitrification, hygiene of animal infective disease, production of ptomains, toxins, and other bacterial products.

Domestic Science.—Beneficial and injurious bacterial effects on foods; preservation of foods. Hygiene of human infective disease; specific human infectious diseases.

Agriculture.—Conditions favoring nitrification and denitrification; hygiene of stock infective diseases; the preparation and use of antitoxins and vaccines.

The students of all courses are required to take laboratory work, in which they study cultural and microscopical features; the staining of bacteria and preparation of culture media; thus the student becomes perfectly familiar with bacteriological apparatus. Must be preceded by advanced physiology and zoology. Lectures and laboratory work.

6. **Veterinary Science.** Fourth year, winter term. Diseases of farm animals, cause, symptoms, and treatment; special attention being given to hygienic nursing and the use of domestic remedies; judging horses as to conformation and soundness. This is intended to meet the practical needs of farmers and stockmen. This must be preceded by physiology, chemistry, hygiene of farm animals, and veterinary anatomy.

Advanced work in human and comparative physiology, bacteriology and veterinary science is offered to students who are qualified. With this advanced work, opportunity for research work, theoretical and practical, will be offered.

MEANS OF ILLUSTRATION.

In addition to the stock upon the College farm, the veterinary museum contains Azoux models of man and horse which are dissectible; also, apparatus, instruments, charts, models, and an excellent collection of parasites of domestic animals. There is also a large collection of anatomic specimens showing healthy and diseased structures. The bacteriological laboratory is well equipped with microscopes and apparatus for bacteriological work, both elementary and advanced.

The Short Courses.

There are large numbers of young people who from lack of means or time are unable to take an extended course of study, but whose usefulness in the world would be much increased by a little special training. Their earning capacity in the household or on the farm is far from what it might be, and they are thus handicapped in the struggle for a livelihood. To bring to this large portion of the "industrial classes," even in small measure, the "liberal and practical education" provided for by the organic act, the College has established certain short courses of study, with practice.

The teaching in these courses, while no whit less accurate than in the others, is upon a different plane. Taking students without scientific or mathemetical training, the instruction must be more largely a giving of facts, without an elaboration of the underlying principles which the regular courses afford. The work is intensely practical. Studying such texts as any bright young man or woman can understand, receiving lectures of the same type, and putting into daily practice through industrial exercises the facts and principles learned in the classroom, the student cannot but be greatly benefited. It is hoped, too, that in many cases young people who had thought that they could not afford a four-year course will, by this taste of the advantages and pleasures of an education, be led into the regular courses.

These courses are put at the seasons of the year which seem likely to accommodate the most students, those for young men being given in the winter term, when farm work is more slack, and the young women's course being in the fall. Four such courses are now offered: A dairy course of one winter term; a domestic science course of two fall terms; an agriculture-mechanics course and a horticulture-mechanics course of two winter terms. The last two courses are identical the first term, but in the second, one treats horticultural lines more exclusively and the other agricultural.

REQUIREMENTS FOR ADMISSION.

Persons at least eighteen years of age and of good moral character are admitted to these courses as follows:

Persons between the ages of eighteen and twenty-one will be admitted upon presentation of common-school diploma, grammar-school certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading, writing, spelling, arithmetic, grammar, geography, physiology, and United States history. Persons over twenty-one will be admitted without examination, but should have sufficient education to enable them to understand the simple text-books used, and to handle readily problems in common and decimal fractions and percentage. They will be required to attend strictly and constantly to their duties, or leave. They have the same free use of the College library that other students have. Owing to the peculiar nature of the work and to the slight degree of preparation which it assumes, ***students are required to be present at the very beginning of the course, and those applying later will not be admitted.***

The short courses are in no sense equivalent to the long courses, and no one should take a short course who can take a whole or even a part of one of the long courses. All of the common-school branches are taught each term; all of the first-year subjects, except elementary botany, which is not taught during the winter term, and nearly all of the second-year studies are taught each term; so that it is possible for one to get nearly all subjects of the first two years by attending during the winter terms only.

Dairy Course.

One winter term, twelve weeks.

Dairying and Agriculture	5 hrs.	per wk.
Dairy Bookkeeping ..... one-half term		
Creamery Butter-making, or		
Cheese-making, or ..... one-half term	5 "	"
Private Butter-making		
Feeds and Feeding ..... one-half term		
Breeds and Breeding ..... one-half term	5 "	"
Bacteriology	3 "	"
Diseases of Dairy Animals	2 "	"
Boilers and Engines	5 "	"
For farmers—*Milk-testing and Private Butter-making*	20 "	"
For creamery men—*Milk-testing and Creamery Butter-making*	20 "	"
For cheese-makers—*Milk-testing and Factory Cheese-making*	20 "	"

OUTLINE OF STUDIES.

Dairy Bookkeeping. Practice in bookkeeping that will enable the student to understand the underlying principles, followed by training in keeping books for farm, dairy and creamery accounts.

DAIRY CLASS.

Dairying and Agriculture. Milk: its secretion, nature, and composition; causes and conditions influencing the quality and quantity of the milk; handling of milk for the market and for butter-making, including milking, straining, aerating, cooling, preserving, and shipping; creaming of milk by the separator; cream-ripening and butter-making. Production of dairy crops. Text-books, Wing's Milk and its Products, Farrington's and Woll's Testing Milk and its Products.

All students will study dairying together for the first half of the term. This class will then be divided, creamery men taking lectures on *creamery butter-making*, the cheese-makers on *factory cheese-making*, and the dairymen on *private butter-making*.

Feeds and Feeding. Properties of common feed stuffs, their effect on character and yield of milk and butter, and their adaptability to Kansas conditions of dairying; the compounding of dairy rations to secure good yields at least cost with products having desired qualities. Careful study of the feeding of the College dairy herd will also be required. Text-book, Henry's Feeds and Feeding.

Breeds and Breeding. Characteristics of leading breeds of cattle and their adaptability to Kansas dairy farming; dairy farm, and the selection of dairy animals; care and management of the dairy herd; principles of stock-breeding; scoring and comparative judging of dairy cattle.

Bacteriology. Relations of bacteria to methods of keeping milk, ripening cream and cheese, and flavoring butter; diseases of milk, their relations to the health of man and animals; principles of disinfection. Text-book, Russell's Bacteriology. Lectures.

Diseases of Dairy Cattle. The common ailments of calves and dairy cows are discussed and their causes and symptoms explained, remedies and preventives suggested, all from a practical farmer's standpoint. During the dairy school the College herd will be tested with tuberculin and the students taught how to make the test.

Boilers and Engines. Lectures and practice in the firing of boilers, care and running of engines, pumps, etc.; practice in shops.

Butter-making and Milk-testing. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. Students may choose either creamery butter-making, cheese-making, or private dairying. Thorough instruction and practice will be given in all three of these lines. The dairy rooms are fully equipped with hand and power separators, Babcock tests, churns and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory-cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may make tests of the work of the different makes of separators, churns, etc.

EXPENSES.

Tuition is free. Board and rooms can be secured for $2.50 and upward per week; laundry costs about fifty cents per week. Each student will need two white suits and caps for use in the dairy-room. These can be purchased in Manhattan. Unnecessary breakage will be charged at cost. Incidental expenses will be high or low, as the individual determines. The total of all expenses for the entire time, exclusive of railroad fare in coming and returning, need not exceed forty dollars, and with close economy may be made less. Students in the dairy course cannot expect to earn any part of their expenses while at the College, as every hour will be needed for class work, practice, or study.

Farmers' Short Course.

First Year (Winter Term, Twelve Weeks).

Feeds and Feeding	5 hrs. per wk.
Horticulture, Entomology	5 " "
Crop-production, Bookkeeping	5 " "
Diseases of Farm Animals, Bacteriology	5 " "
Breeds and Breeding	5 " "
Blacksmithing, Repairing	10 " "
Science Lectures	1 " "

Second Year (Winter Term, Twelve Weeks).

In the second year the course divides, and the student can take either the course in agriculture or the course in horticulture, as he desires.

AGRICULTURE.	Hrs. per wk.
Orchard Treatment, Pomology	5
Dairying, Farm Architecture	5
Botany	5
Physics and Chemistry	5
Shops, Farm Carpentry, etc.	10
Farm Practice	5
Science Lectures	1

HORTICULTURE.	Hrs. per wk.
Vegetable gardening and Small-fruit Culture	5
Orchard Treatment, Pomology	5
Diseases and Insects	5
Physics and Chemistry	5
Shop, Farm Carpentry, etc.	10
Horticultural Practice	5
Science Lectures	1

OUTLINE OF STUDIES.

FIRST YEAR.

Feeds and Feeding. The properties of feed stuffs, and their combination to secure good returns at least cost with products having the desired qualities; effect of food on quality of products; construction of farm buildings and appliances to secure best returns from feed and for saving labor; a study of the feeding on the College farm. Text-book, Henry's Feeds and Feeding. Lecture.

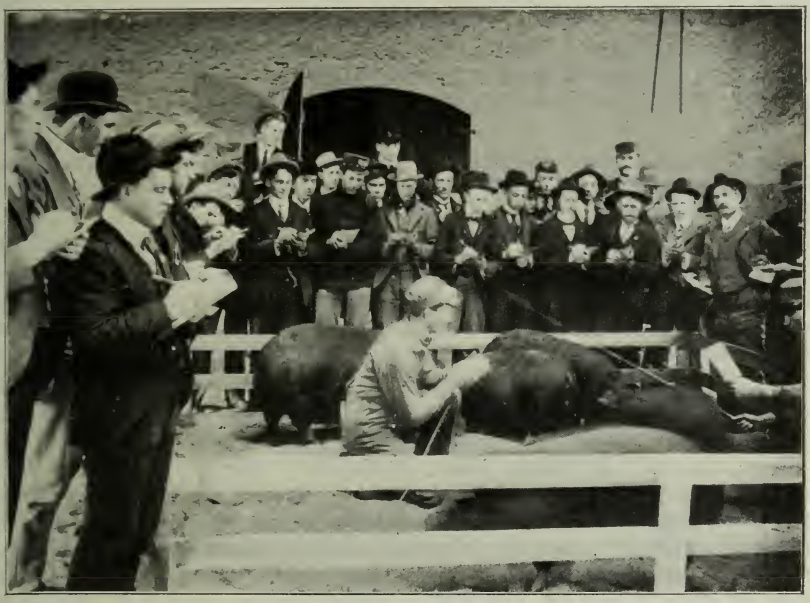
Horticulture. General principles underlying plant growth; structure and functions of the various parts of the plants; nutrition, formation of seed, etc.; propagation by seedage, cuttage, graftage, and layerage; environment, including the effects of temperature, light, food and water supply; possibilities of improvement by cultivation, training, and selection. Text-book, Goff's Principles of Plant Culture.

Breeds and Breeding. Characteristics of the breeds of live stock and their adaptability to Kansas conditions; principles of breeding; form as an index of qualities; selection and judging of horses, beef and dairy cattle, swine, and poultry.

Entomology. Nature, time and extent of the injuries from insect life, and a knowledge of the remedies, when and how to apply them. Structure of a number of insect types; study of the beneficial insects, and the more injurious forms attacking farm, orchard and garden crops. Use of preventives and insecticides.

Crop-production. A study of the soil, the plant, and crop-growing, including the management of the soil for maintaining and increasing its productivity, the improvement of worn-out soils, conservation of moisture and the preparation of the soil, selection of the seed, method of planting, treatment after planting and harvesting of Kansas field crops to secure best returns at least cost. Text-book, Bailey's Principles of Agriculture. Lectures.

Bookkeeping. The principles are mastered through their practical application to forms adapted to farm affairs. Each student keeps a regular set of books, in which accuracy and neatness are not less important than a correct understanding of principles. A set of books is developed which would be practical for every



JUDGING SWINE.

JUDGING CHICKENS.

farmer, accounts being kept with various departments of his business—fields, granaries, garners, orchards, hogs, cattle, milch cows, etc.

Diseases of Farm Animals. The common ailments of farm animals are discussed, their causes and symptoms explained, and preventives and remedies suggested. Inoculation against blackleg will be performed by the student in this course.

Bacteriology. Characteristics of bacteria; their relation to health and disease of man and animals, to soil fertility, and to quality of dairy products; principles and methods of disinfection.

Blacksmithing. Forging and welding, construction of singletree clips, wagon ironing, clevises, horseshoes, sharpening and tempering plows and tools, general repair work. Advanced work is also offered in the care and management of boilers and engines. If the student desires, he can make a forge and set of blacksmith tools to take home with him, paying only for the iron used.

Science Lectures. Lectures will be given in both the first and second years of the course by the instructors on subjects of most interest to the students in this course.

SECOND YEAR—AGRICULTURE COURSE.

Dairying. Milk: its secretion, nature, and composition; causes and conditions influencing the quality and quantity of milk; handling of milk for the market and for butter-making, including milking, straining, aerating, cooling, preserving, and shipping; creaming of milk by gravity methods and by the separator; cream ripening and churning; washing, salting, working, packing and marketing butter. Text-book, Wing's Milk and its Products.

Farm Architecture. Each student will be required to prepare plans, elevations, sections, detailed drawings and specifications of a sanitary farm barn, with outbuildings.

Orchard Treatment and Pomology. Same as in horticulture course.

Botany. The laws of plant growth which have a direct bearing upon the raising of grasses, grains, clovers, forage-plants, and weeds; a study of the common fungi that affect cultivated plants; seed-testing: practical methods of farm seed-breeding.

Physics. A consideration of the principles of physics which underlie farm operations, farm mechanics, control of soil moisture, physical laws of tillage, meteorology. A knowledge of the law of physics enables the farmer to store moisture and to reduce loss of water from the soil by evaporation. It is the practical application of these laws that will solve our drought problem.

Chemistry. The relation of soils to earth, air, and water, formation and characteristics of different kinds of soils, soil enrichment and improvement, the chemistry of feeds and of animal products.

Farm Carpentry. Elementary woodwork in joinery and construction, followed by general woodwork and carpentry, care and use of farm machinery, the building of frame structures, such as stables, piggeries, poultry-houses, ice-houses, and farm creameries, will be given both by lectures and by practical work.

SECOND YEAR—HORTICULTURE COURSE.

Vegetable-gardening and Small-fruit Culture. The first half of the term is devoted to vegetable-growing, consideration being given to the raising of vegetables for home and market; locations, soils, fertilizers, tools, irrigation, etc., best suited for crops grown in kitchen- and market-gardens; the growing of extra-early or late crops, their special treatment, cultivation, and harvesting; the means

employed in the preservation of vegetables for future use; vegetables suited to Kansas conditions, methods of improvement, etc. Small-fruit culture occupies the second half of the term. The subject is treated in much the same manner as vegetable-gardening, taking up the cultivation of small fruits and the methods employed in their propagation, handling, and improvement. Five hours per week. Lectures.

Orchard Treatment and Pomology. This branch is devoted to the practical treatment of orchard work; location, soil, planting, pruning, cultivation and fertility of the orchard; a study of the use and value of windbreaks—how best made, trees suitable for same in Kansas; causes of plant variation and methods employed in the improvement of orchard fruits; grape growing in the West, a study of the distinctive characteristics of varieties, their value for home and market use; lists of varieties of fruit suitable for Kansas orchards; a general treatment of planning the grounds, location of houses, barns, gardens, orchards, lawns, fields, etc. Five hours per week. Text-book, Bailey's Principles of Fruit-growing. Lectures, with library references.

Orchard Diseases and Insects. The work of this branch is the investigation of various orchard pests. Life-history and depredations of insects and fungous diseases attacking horticultural crops, together with means of combatting them, preventives, and remedies; mechanical devices, spraying compounds and machinery, and methods employed in the warfare.

Chemistry and Physics. In classes with the agriculture course.

Domestic Science Course.

First Year (Fall Term, Twelve Weeks).

	Hrs. per wk.
Lectures and Practice in Cooking	15
Home Sanitation and Household Accounts	1
Sewing	16
Drawing	5
Vegetable-gardening and *Floriculture*	5

Second Year (Fall Term, Twelve Weeks).

	Hrs. per wk.
Lectures and Practice in Cooking and Home Nursing	10
Bacteriology and Physiology	5
Physics one-half term, Chemistry one-half term,	5
Dressmaking	12

FIRST YEAR, FALL TERM, TWELVE WEEKS.

Lectures and Practice in Cooking. This work includes the following topics: The origin and purpose of cooking, and the effects of heat and cold upon starch and albumen; direct application of the principles learned to the cookery of eggs, vegetables, beverages, and soups; the general cookery of meats, with study of the meat charts; baking-powders, their composition and adulteration; yeast, and bread-making by fermentation.

Drawing. The work in drawing is especially adapted to the needs of this class of students; it will consist of free-hand and geometrical drawing.

Home Sanitation and Household Accounts. Care of the kitchen, living-rooms, sleeping-rooms, dining-rooms, etc., including the cleaning of kitchen utensils and lamps, sweeping, dusting, and care of plumbing. A simple method of keeping accounts of receipts and expenditures will be given.

Sewing. Pupil makes a model book covering the full course in hand sewing, and consisting of basting, gathering, darning, patching, etc. Machine practice, drafting, cutting and making underskirt and drawers; drafting, fitting and mak-

ing dress without lining; cutting and making corset cover and night-dress. Materials for the model work will be furnished by the College. Each pupil will furnish her own material for the garments, but if sufficient proficiency is shown in making the first garment, pupils may be allowed to take orders for the others.

Vegetable-gardening and Floriculture. The first half of the term is devoted to vegetable-growing. Subjects treated include the raising of vegetables for home and for market, with location, soils, manures, tools, irrigation, etc., best suited for crops grown in kitchen- and market-gardens; the construction and manipulation of hotbeds, cold-frames, and winter gardens; the growing of early and late crops, their special treatment, methods of cultivation, planting, transplanting, harvesting, and marketing; a study of varieties suitable to local conditions; and the origin, nature and methods of improvement of vegetables. The last half of the term is devoted to floriculture. Lectures in the classroom are supplemented by practical exercises in the greenhouses and gardens, treating of the propagation and culture of flowers, including the treatment of seeds, cuttings, mixings of soils, potting, repotting, watering, cut flowers, packing, and the many operations that attend amateur and commercial flower-gardening.

SECOND YEAR, FALL TERM, TWELVE WEEKS.

Lectures and Practice in Cooking and Home Nursing. The following subjects are taken up: The food principles and their classification; the uses of food in the body; canning and preserving; cookery of the various combinations made with eggs, thus involving the application of heat to albumen; simple chemistry of bread-making, rolls, puddings, etc.; practical lessons in frying and in cookery of salads, plain pastry, dessert, and cake; a series of six lessons in invalid cookery, including gruels, toast, beef tea, soups, eggs, and milk; and six lessons in home nursing.

Physics. The subjects of mechanics, sound, heat, light and electricity will be briefly treated by lectures, especial attention being given to heat in its relation to cooking, ventilation, etc.

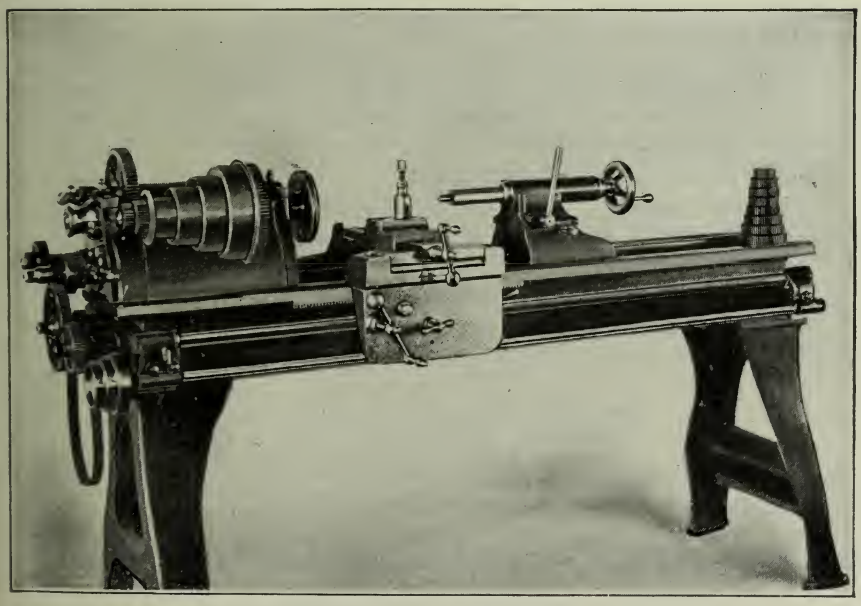
Chemistry. By means of lectures, accompanying a simple text-book, the attempt is made to give the students some idea of the nature of chemical action, and to impart the facts most directly bearing upon cleaning, sanitation, cooking, and nutrition.

Bacteriology. Brief history of bacteriology. External conditions that affect bacteria. Disinfection; how to prevent spread of infectious diseases.

Physiology. Physiology and hygiene of the human body; laws of health and care of the sick.

Dressmaking. Pupil will be taught the use of a dress-cutting system, cutting, fitting and making woolen dress. Pupil must furnish her own material, and cut and make a dress for herself.

SHOPS.



LATHE BUILT BY STUDENTS.

Apprentice Courses.

Mechanical Department.

Many who are unable to take the four-year engineering course and who wish to learn a trade will find in the apprentice courses opportunities to obtain practical skill in carpentry, blacksmithing, foundry, machine-shop practice, and boiler and engine attendance.

In the apprentice courses the advantages of the shops are offered free to a limited number of young men who cannot enter regularly in the College classes. Since instruction rather than money-making is the object of these courses, it can be readily seen that the apprentice work under skilled instructors offers many advantages over the ordinary trade apprenticeship. The number that can be accommodated for the coming year is estimated at thirty, and the work given is of the most practical character.

REQUIREMENTS FOR ADMISSION.

Persons at least eighteen years of age and of good moral character are admitted, as follows:

Persons between the ages of eighteen and twenty-one will be admitted upon presentation of common-school diploma, grammar-school certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading, writing, spelling, arithmetic, grammar, physiology, and United States history. Persons over twenty-one will be admitted without examination. Their taking one of the regular four-year courses must be obviously impracticable; must observe College regulations; must agree to work at least thirty hours per week in the shops, and must remain in the shops for a minimum period of eighty weeks. No charge of any kind is made, nor is any pay given to apprentices. All apprentices are taken on one month's trial, that those not naturally suited for such work may be relieved of the necessity of remaining the full period. Graduates of these courses are given a certificate showing proficiency in line of work pursued.

Courses are offered in the following lines:

a. Machine-shop.
b. Blacksmith shop.
c. Carpenter shop.
d. Foundry.
e. Boiler- and engine-room.

PRINTING DEPARTMENT.

Persons may enter the printing department under the same requirements as above. The work consists of composition, proof-reading, press and job work.

Young Men's Christian Association.

The Young Men's Christian Association, having a membership of over 400, is one of the largest and most influential student organizations of the College. The association is thoroughly organized for practical Christian work, and exerts a most wholesome influence in the College.

When a young man gets off the train at Manhattan he finds a committee from the Young Men's Christian Association ready to help him find a desirable boarding place, and to assist him, in every way possible, to make his college life both pleasant and profitable.

The nature of the work of the association may be briefly indicated by the following quotation from the back of a membership application blank:

Reasons for Joining the Y. M. C. A.

I.—Because of what it stands for:

Clean Christian manhood in the College.
Growth into a larger and more spiritual Christian life.
"Practical Christianity"—rendering material assistance in every way possible.
Aggressive Christian work by and for students.

II.—Because of what it offers You, and all other Young Men of the College:

Attractive and profitable religious meetings.
The use of a homelike parlor, together with an organ, where you may go evenings and Sunday afternoons when you feel lonely and cannot study.
A sick-room, where you will be placed and taken care of when you need such attention.
Opportunities of fellowship and frequent social gatherings.
Two courses in Bible study.
Classes in the study of modern missions.
The opportunity of doing Christian work among your fellows.
Free tutoring when needed and deserved.
Free employment and general information bureau.
Students' loan fund, for helping worthy students out of tight places.
A loan library of text-books.
The most valuable and helpful handbook in the West.
A membership ticket which will secure for you special courtesies and privileges in all the leading city, railroad and college associations on the continent.
The brotherly sympathy and advice of the General Secretary in regard to any difficulty that you may have.

III.—Because of what it is:

The largest student organization in the College.
The largest intercollegiate organization in existence.
An organization heartily supported by the Faculty.
An organization in good financial condition.
An organization that keeps out of College politics.
An organization that has in its membership the most prominent men in College, and men from all classes of students.

All young men contemplating entering college are invited to write to the General Secretary of the association for all kinds of information regarding the College, and especially in regard to the work of the Y. M. C. A.

Young Women's Christian Association.

The Young Women's Christian Association of the Kansas State Agricultural College was organized in 1886, and in 1901–'02 had a membership of 100, made up of women of the faculty, assistants, and young women of the various classes.

The object of the association is to look after the general welfare of the women who attend the institution and to give them any assistance needed. The work of the association begins by meeting the new women at the train and helping them secure the best and most homelike boarding places at reasonable rates. Guides are supplied to show the new students to their respective classrooms until familiar with the buildings. The employment bureau helps those who need it to find work. The new-student committee assists in every way possible to get the new students properly started with their college work.

To the young women away from home for the first time questions arise which the older and more experienced student will be able to solve, and help in solving these problems is cheerfully given. The idea of each association member is to make each new student feel at home in the College and association rooms, and feel that when she meets a Y. W. C. A. student she meets a friend who is interested in her welfare.

The association looks after women in case of sickness, and, where the sickness is severe, nurses are detailed from the members to look after the patient as long as a nurse's services are required.

Each Saturday at the noon hour devotional meetings are held, conducted by instructors of the College or members of the association. Socials are held each term, to enable the young women of the College to become better acquainted.

In the Domestic Science Hall is the office of the general secretary and the general headquarters of the association. This office and reading-room is supplied with papers and magazines, and here any woman may spend a vacant hour with a short story or a scientific article, being assured she is a welcome visitor.

Each year the officers of the association receive letters from parents or friends of prospective students, asking that care in certain lines be given. These cases always receive special care.

Any young woman who contemplates attending the Kansas State Agricultural College, and who wishes information such as the catalogue does not give, may write to the General Secretary, Y. W. C. A., Manhattan, Kan.

General Information.

Terms of Admission.

Persons over fourteen years of age will be admitted in any of the following ways:

1. Kansas teacher's certificate, provided no subject is below seventy per cent.

2. Diploma received on completion of a county course of study which has been approved by the Faculty.

3. Certificate of passing the grammar grade or diploma from the high school of any city or county with a course of study approved by the Faculty.

4. Pass a satisfactory examination in reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology.

Persons over eighteen years of age will be admitted to the preparatory classes if unable to pass the common-school branches.

Full admission to the first year, in addition to the common-school branches—reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology—requires bookkeeping, English composition, and algebra through simple equations of one unknown quantity. It is quite possible for a good student who enters somewhat behind to make up his deficiency in a year or two and graduate in four years.

All of the preparatory studies are taught each term; and all of the first-year studies except botany, which is not taught during the winter term, and nearly all of the second-year subjects are taught each term; so that a person may enter at the beginning of any term and find work suited to his advancement.

Examinations for admission are held at the beginning of each term. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

On entrance, applications for advanced standing in the courses or for credit for certain studies in the courses may be made to the chairman of the committee on examinations. After entrance, such applications should be made to the professor in charge of the study. In any case the applicant will be required to pass such an examination as the professor in charge deems necessary.

The courses of the following cities and counties have been approved by the Faculty, and others may be submitted at any time:

CITIES.

Abilene.	Coffeyville.	Hiawatha.	Lyons.	Pratt.
Alma.	Columbus.	Holton.	Manhattan.	Russell.
Anthony.	Concordia.	Horton.	Mankato.	Salina.
Argentine.	Council Grove.	Humboldt.	Marion.	Scranton.
Arkansas City.	Dexter.	Hutchinson.	McPherson.	Sedan.
Atchison.	Dodge City.	Independence.	Minneapolis.	Seneca.
Augusta.	El Dorado.	Iola.	Neodesha.	Solomon City.
Baldwin.	Ellsworth.	Junction City.	Newton.	St. Mary's.
Belleville.	Emporia.	Kanopolis.	Olathe.	Topeka.
Beloit.	Eureka.	Kansas City.	Osage City.	Valley Falls.
Burlingame.	Fort Scott.	Kingman.	Osborne.	Wamego.
Burlington.	Fredonia.	La Cygne.	Oswego.	Washington.
Caldwell.	Garden City.	Larned.	Ottawa.	Waverly.
Chanute.	Garnett.	Lawrence.	Paola.	Wellington.
Cherryvale.	Gaylord.	Leavenworth.	Parsons.	Wellsville.
Chetopa.	Girard.	Lebo.	Pittsburg.	Winfield.
Clay Center.	Great Bend.	Lincoln.	Pomona.	Wichita.
Clifton.				

COUNTIES.

Allen.	Elk.	Kingman.	Phillips.	Shawnee.
Barber.	Ellis.	Labette.	Pottawatomie.	Sherman.
Bourbon.	Ellsworth.	Lane.	Pratt.	Smith.
Chautauqua.	Franklin.	Lincoln.	Reno.	Thomas.
Cheyenne.	Geary.	Logan.	Republic.	Trego.
Clay.	Gove.	Marion.	Rice.	Wabaunsee.
Cloud.	Greeley.	Miami.	Riley.	Wallace.
Coffey.	Harper.	Mitchell.	Rooks.	Washington.
Comanche.	Harvey.	Morris.	Rush.	Wilson.
Cowley.	Jefferson.	Nemaha.	Russell.	Woodson.
Decatur.	Jewell.	Norton.	Scott.	Wyandotte.
Douglas.	Johnson.	Ottawa.		

COUNTY HIGH SCHOOLS.

Atchison and Dickinson.

Counties and cities on the accredited list may be called upon at any time to furnish evidence that they are maintaining a satisfactory standard of scholarship.

Students should make every effort to enter on the first day of the term. Those entering later will be at a serious disadvantage, and if more than two or three weeks late should expect to take review work or fewer studies. If unable to enter before mid-term it will be better to wait until the next term.

Hospitants.

That mature persons not able to attend College continuously may nevertheless be able to enjoy, in a measure, the privileges of the institution, an invitation has been extended to all citizens of Kansas who may be so disposed to visit the College, its lectures, laboratories, library, shops, and various departments, and to avail themselves, as fully of its advantages as may be consistent with their wishes, with the needs and duties of the regular students, and with the harmonious and successful working of the institution. Following are certain rules concerning hospitants:

Persons regularly attending any of the classes of the Kansas State

Agricultural College, without assuming the regular duties of students, will be known as hospitants, and—

1. Must be persons of mature age, whose attendance on regular College duties is obviously impracticable.

2. Must be properly enrolled at the President's office.

3. May attend any of the regular classes of the institution, subject to the same regulations, with regard to punctuality and attendance, as are imposed upon regular students, except as to recitations and examinations.

4. May use the library, as regular students.

5. Are not entitled to laboratory privileges without special recommendation of the professor in charge and the permission of the Faculty.

Examinations.

Examinations for admission are held at the beginning of each term, as shown in the calendar of the college year. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

Examinations in the courses are held twice each term, as announced in the calendar. The results of the examinations, marked on a scale of 100, are combined with the grades of the preceding daily exercises into a grade for the period. Grades reported to the Secretary for record are made up by giving the mid-term record a value of one-third and the record for the last half of the term a value of two-thirds. For passing a study, the mean grade so calculated, and also the grade for the last half of the term, must be at least seventy. Any student receiving less than a passing grade on two or more studies may be required to drop back or withdraw from the College. Any student may receive a certificate of standing, upon leaving College at the close of a term.

Students deficient in entrance studies must make good such deficiencies before entering on the work of the second year. Students are not catalogued in the third-year class unless all deficiencies of the preceding years are provided for. Candidates for graduation must make good all deficiencies before entering on the work of the spring term of the fourth year. No student is considered as a candidate for graduation who, after the opening of the fall term, is deficient more than three full studies in addition to regular work. Extra work is not allowed to any student who failed in any branch the preceding term, or whose average grade for all branches was less than eighty.

After entering college, students are allowed special examinations only upon recommendation of the professor in charge, and by permission of the committee on assignments. Permission for examina-

tion in studies not pursued with a class must be obtained at least two months before the examination is held. All such examinations are held under the immediate supervision of the professor in charge, and are thorough and exhaustive. Students desiring credit for work done elsewhere must bring certificates and catalogues to show that the work done is equivalent to ours. The right is reserved to cancel any credits if the work of the student in succeeding branches shows insufficient preparation.

Regulations in Regard to Substitutions.

With the five regular courses that the College now offers, most of the requirements of students are met. For one reason or another, however, some students find it necessary or desirable to substitute something else for the work that their respective courses would require. To place such substitutions on a systematic basis, the following regulations have been adopted by the Faculty:

1. Substitutions shall, as far as practicable, give training similar to that of the work displaced.

2. No student shall be allowed a substitution for work in which he has failed.

3. Unless made necessary by the acts of the Board of Regents or of the Faculty, substitutions shall not be allowed: (*a*) To students who are below the third year; (*b*) to students who have failed in any study of the two terms' work immediately preceding; (*c*) unless arranged for in advance.

4. Students desiring to substitute other work for any requirement in their respective courses of study must present written requests to the committee on assignments.

5. When a request for substitution is made by any student, the committee on assignments shall consult with all of the professors whose work is touched by the proposed substitution, and if unable to agree with them the case shall be submitted to the Faculty.

6. All substitutions arranged by the committee on assignments shall be reported to the Faculty by posting on the Faculty bulletin-board, and if not objected to within one week shall be reported to the Secretary for record in the students' register.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Monday, and no stu-

dent may be absent without excuse. Students cannot honorably leave the College before the close of a term, unless excused beforehand. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and absence from them is noted.

Nearly every Saturday, at 1:30 P. M., the whole body of students gathers for a public lecture, or for rhetorical exercises of the third- and fourth-year classes.

There are five prosperous literary societies, which meet weekly in rooms set apart for their use. The Alpha Beta and Franklin open to both sexes, and the Ionian for young women, meet Saturday afternoon. The Webster and the Hamilton admit to membershp young men only, and meet on Saturday evening.

At various times during the year the College halls are opened for social or literary entertainments for the whole body of students, or for classes. For the last five years the students have organized and presented courses of entertainments, which have been of high value, and of a moderate expense to each individual.

Earning One's Way.

The courses of study are based upon the supposition that the student is here for study, and a proper grasp of the subjects cannot be obtained by the average student unless the greater part of his time is given to college duties. Students in straitened circumstances are encouraged and aided in every way possible, but unless exceptionally strong, both mentally and physically, are advised to take lighter work by extending the course, if obliged to give any considerable time to self-support. As a rule, students should be prepared with means for at least a term, as some time is necessary for one to make acquaintances and learn where work adapted to him may be had.

The lines in which employment may be had are various. The College itself employes student labor to the extent of about $1000 per month, the rate paid being ten cents per hour. This work is on the farm, in the orchards and gardens, in the shops and printing-office, for the janitor, etc. As one's ability and trustworthiness become established, more responsible and more remunerative work may be had, to a limited extent. Many students obtain employment in the town; some work for their board in families in town or in the country near the College. Labor is everywhere respected, and the student who earns his way is honored by all. He will necessarily have little time for the lighter pleasures that may be incident to college life.

Expenses.

Tuition is free to all, irrespective of residence in Kansas; and no fee for incidental or contingent expenses is charged. Board and washing are not furnished by the College. Board, with furnished room, can be procured in private families at from $2.50 to $3.50 per week, or table board in student clubs from $1.50 to $2.25 per week. Furnished rooms, without board, can be obtained at from $3.50 to $5 per month. Some students board themselves at even less cost, and rooms for the purpose can be obtained at a rent of from $1 to $3.50 a month. Washing costs from 50 cents to $1 a dozen pieces. Ordinary expenditures, aside from clothing and traveling expenses, range from $100 to $200 a year. No institution in the state furnishes an education at less cost to the student.

Business Directions.

General information concerning the College and its work, studies, examinations, grades, boarding places, etc., may be obtained from the President or the Secretary.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several professors and superintendents.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid from the office of the Treasurer.

All payment of principal and interest on account of bonds or land contracts must be made to the state treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The *Industrialist* may be addressed through Pres. E. R. Nichols, managing editor.

Donations for the library should be sent to the Librarian; donations for the museum, to the curator of the museum.

Applications for farmers' institutes should be made as early in the season as possible, addressing Institute Department, Kansas State Agricultural College.

Applications for the publications of the Experiment Station, and general inquiries concerning its work, should be addressed to Agricultural Experiment Station; but correspondence concerning any special line of investigation should be sent to the member of the Council in charge of the work concerning which information is desired.

Students.

GRADUATES.

CANDIDATES FOR MASTER'S DEGREE, 1902.

George Ogden Greene, B. S. '00 ..... *Horticulture, Botany.*
Manhattan, Riley county.

NON-RESIDENT.

Frank A. Hutto, B. S. '85 ..... *Economic Science, Horticulture.*
Stillwater, Okla.

IN COURSE LEADING TO MASTER'S DEGREE.

Loua Adelle Blachly, B. S. '01 ..... *Domestic Science.*
Manhattan, Riley county.

George Adam Dean, B. S. '95 ..... *Entomology, Botany.*
Manhattan, Riley county.

Josephine Finley, B. S. '00 ..... *Domestic Science.*
Manhattan, Riley county.

Ina Emma Holroyd, B. S. '97 ..... *Domestic Science.*
Manhattan, Riley county.

Fred Emanuel Johnson, B. S. '99 ..... *Physiology, Bacteriology, Chemistry, Zoology.*
Melvern, Osage county.

Ruth Atwill Mudge, B. S. '01 ..... *Botany, Bacteriology.*
Manhattan, Riley county.

Helena Maude Pincomb, B. S. '01 ..... *Chemistry, Domestic Science.*
Merriam, Johnson county.

Delmer William Randall, B. S. '99 ..... *Engineering, Mathematics, Physics.*
Manhattan, Riley county.

Vernon M. Shoesmith, B. S. (Michigan Agricultural College) ..... *Agriculture, Bacteriology.*
Manhattan, Riley county.

Clara Spilman, B. S. '00 ..... *Domestic Science, Chemistry, Bacteriology.*
Manhattan, Riley county.

Gertrude Ella Stump, B. S. '96 ..... *Domestic Science, Chemistry.*
Manhattan, Riley county.

Barton Thompson, B. S. '00 ..... *Botany, Horticulture, Bacteriology.*
Garrison, Pottawatomie county.

Frank Edwin Uhl, B. S. '96 ..... *Bacteriology, Agriculture.*
Gardner, Johnson county.

George Carpenter Wheeler, B. S. '95 ..... *Agriculture, Dairying, Chemistry.*

NON-RESIDENT.

John Martin Kessler, B. S. '99 ..... *Horticulture, Botany.*
Lincoln, Neb.

Harry Delphos Orr, B. S. '99 ..... *Chemistry, Physiology, Bacteriology.*
Chicago, Ill.

IN ADVANCED WORK NOT LEADING TO A DEGREE.

Delmer Akin, B. S. '01 ..... *Constitutional Law, Music.*
Manhattan, Riley county.

Lillie Grace Bolton, B. S. '00 ..... *Philosophy of Education.*
Paxico, Wabaunsee county.

Fannie Rachel Ellen Dale, B. S. '01 .... *Domestic Science, Music.*
Manhattan, Riley county.

James William Harner, B. S. '00 ..... *Agriculture.*
Manhattan, Riley county.

Madge Ruth McKeen, B. S. '01 ..... *Domestic Science.*
Manhattan, Riley county.

Walter E. Mathewson, B. S. '01 ..... *Chemistry.*
Manhattan, Riley county,

Margaret Jane Minis, B. S. '01 ..... *Music.*
Manhattan, Riley county.

Jessie May Mustard, B. S. '01 ..... *Philosophy of Education, School Law, Entomology, American Literature, Music.*
Manchester, Dickinson county.

Hattie M. Noyes, B. S. '91 ..... *Domestic Science, Chemistry.*
Wabaunsee, Wabaunsee county.

Walter H. Olin, M. S. '91 ..... *Dairying, Bacteriology.*
Ottawa, Franklin county.

Kate Paddock, B. S. '00 ..... *Domestic Science, Music.*
Manhattan, Riley county.

C. Jeanette Perry, B. S. '98 ..... *Domestic Science.*
Manhattan, Riley county.

Laura Helen Trumbull, B. S. '00 ..... *History of Education.*
Manhattan, Riley county.

Mary Caroline Wagner, B. S. '01 ..... *Domestic Art, Bacteriology.*
Enterprise, Dickinson county.

SENIORS.

Name.	Post-office and county (or state).
Mamie Alexander,	Welda, Anderson.
Edgar McCall Amos,	Manhattan, Riley.
Henry Albert Avery,	Manhattan, Riley.
Etta Marie Barnard,	Manhattan, Riley.
Mary Olive Barr,	Myers Valley, Pottawatomie.
George Ford Bean,	Alma, Wabaunsee.
Charles Dallas Blachly,	Leonardville, Riley.
Georgia Evaline Blaney,	Manhattan, Riley.
Bessie Sarah Bourne,	Delphos, Ottawa.
Richard Franklin Bourne,	Delphos, Ottawa.
Martha Amelia Briggs,	Manhattan, (Geary).
Emma M. Cain,	Clay Center, Clay.
Floyd Adelbert Champlin,	Phillipsburg, Phillips.
Elijah Ellis Chase,	Merriam, Johnson.
Charles Howard Clark,	Kinsley, Edwards.
Maude Mildred Coe,	Yates Center, Woodson.
Murray Stanley Cole,	Denison, Jackson.
Robert Curtise Cole,	Denison, Jackson.
Lotta Irene Crawford,	Manhattan, Riley.
Sarah Emily Davies,	Bala, Riley.
Della Drollinger,	Garrison, Pottawatomie.

Name.	Post-office and county (or state).
Charles Eastman,	Ogden, Riley.
Leslie Arthur Fitz,	Vinland, Douglas.
Glick Fockele,	Leroy, Coffey.
Andrew Jewell Francis,	Lucas, Russell.
Fred Norton Gillis,	Keene, Wabaunsee.
Clark A. Gingery,	Summerfield, Marshall.
Esther E. Hanson,	Marquette, McPherson.
William Lee Harvey,	Arkalon, Seward.
Benjamin F. Haynes,	Star, *Idaho.*
William Rutherford Hildreth,	Altamont, Labette.
Christine Delphine Hofer,	Manhattan, Riley.
Henrietta Mattie Hofer,	Manhattan, Riley.
Edward Wilfred House,	Manhattan, Riley.
Floyd James Howard,	Fulton, *Oklahoma.*
Jesse McCullah Jones,	Moran, Allen.
Letta Birdilla Keen,	Clay Center, Clay.
Edgar Willis Kimball,	Manhattan, Riley.
Arthur Henry Leidigh,	Hutchinson, Reno.
George Logan,	Manhattan, Riley.
Otto Meade McAninch,	Manhattan, (Pottawatomie).
Amelia Augusta Maelzer,	Vermilion, Marshall.
Myrtle Mather,	Manhattan, Riley.
Roger Bonner Mullen,	St. Joseph, *Missouri.*
Clara Pancake,	Scott, Scott.
Grover Poole,	Briggs, Geary.
Abbie Elida Putnam,	Manhattan, Riley.
Harry Paul Richards,	Manhattan, Riley.
Eva Talitha Rigg,	Marvin, Phillips.
Earl Nathaniel Rodell,	Marquette, McPherson.
Alice May Ross,	Manhattan, Riley.
John Francis Ross,	Webber, Jewell.
Pontus Henry Ross,	Webber, Jewell.
Fred Lewis Schneider,	Purcell, Doniphan.
Robert Douglas Scott,	Blue Rapids, Marshall.
Edmund Ray Secrest,	Randolph, Riley.
Glen Reid Shepherd,	Kansas City, Wyandotte.
Henry August Sidorfsky,	Leroy, Coffey.
Charles Franklin Smith,	E. Chattanooga, *Tennessee.*
Harley Lee Snodgrass,	Manhattan, Riley.
Walter Hayward Spencer,	Yates Center, Woodson.
John Thomas Stafford,	Garnett, Anderson.
Myrtie Lucy Toothaker,	Wheaton, Pottawatomie.
Fred Walters,	Manhattan, Riley.
Lilly Maud Zimmerman,	Moray, Doniphan.

JUNIORS.

Amy Alena Allen,	Manhattan, Riley.
Marian Allen,	Manhattan, Riley.
Grace Allingham,	Manhattan, Riley.
Ralph Alm,	Sharon Springs, Wallace.
Clinton Jesse Axtell,	Blue Rapids, Marshall.

Name.	Post-office and county (or state).
Wallace W. Baird,	Milford, (Riley).
William Burgess Banning,	Lyndon, Osage.
Clara Florence Barnhisel,	Newton, Harvey.
Wallace Newton Birch,	Manhattan, Riley.
Otis Neel Blair,	Quenemo, Osage.
Frank Andrus Blakslee,	Manhattan, Riley.
Frank William Boyd,	Kensington, Smith.
William Armfield Boys,	Pomona, Franklin.
Viva Brenner,	Porterville, Bourbon.
Eva Maggy Burtner,	Manhattan, Riley.
Howard McCune Chandler,	Kansas City, Wyandotte.
Clark Stewart Cole,	Manhattan, Riley.
De Verne Corbin,	Oxford, Sumner.
James A. Correll,	Manhattan, Riley.
Victor L. Cory,	Dundee, Barton.
Amos Luther Cottrell,	Wabaunsee, Wabaunsee.
Jennie Pearl Cottrell,	Wabaunsee, Wabaunsee.
Ella Criss,	Grigsby, Scott.
Wilma Greene Cross,	Topeka, Shawnee.
Claude Carrol Cunningham,	Manhattan, Riley.
William Doz Davis,	Marquette, McPherson.
Charles Sumner Dearborn,	Silverlake, Shawnee.
Robert William DeArmond,	Lincoln, Lincoln.
Lisla C. Dial,	Stockdale, Riley.
Thomas E. Dial,	Leavenworth, Leavenworth.
Lawrence A. Doane,	Manhattan, Riley.
May Doane,	Manhattan, Riley.
Roy Nathan Dorman,	Wabaunsee, Wabaunsee.
Orrin Pomeroy Drake,	Beattie, Marshall.
Lewis Sidney Edwards,	Emporia, Lyon.
Robert Alexander Esdon,	Olsburg, Pottawatomie.
Corinne Failyer,	Manhattan, Riley.
Maude Irene Failyer,	Manhattan, Riley.
Estella May Fearon,	Manhattan, Riley.
Ralph B. Felton,	McPherson, McPherson.
Ray Bonifield Felton,	McPherson, McPherson.
George T. Fielding,	Manhattan, Riley.
James William Fields,	McPherson, McPherson.
Beulah Fleming,	Smith Center, Smith.
Louis Cloyd Foster,	Newton, Harvey.
Arthur B. Gahan,	Manhattan, (Pottawatomie).
Edwin Chase Gardner,	Homewood, Franklin.
Clara S. Goodrich,	Mankato, Jewell.
Edith Anna Goodwin,	Detroit, Dickinson.
Ellsworth Paul Goodyear,	Oatville, Sedgwick.
Walter Otis Gray,	Crestline, Cherokee.
Wellie Greene,	Lincoln, Lincoln.
Augusta Griffing,	Manhattan, Riley.
Charles Alfred Groves,	Edwardsville, Wyandotte.
Alanson L. Hallsted,	Havana, Montgomery.
Harriet Harter,	Owatonna, *Minnesota*.

Name.	Post-office and county (or state).
Arthur Hurchel Helder,	Manhattan, Riley.
Frank Ferris Hillyer,	Manhattan, Riley.
Chester Albert Hite,	Pondcreek, *Oklahoma.*
Edward Howard Hodgson,	Little River, Rice.
Pearl Holderman,	Chetopa, Labette.
Hartley Bowen Holroyd,	Manhattan, Riley.
Sarah C. Hougham,	Manhattan, Riley.
John Samuel Houser,	Oxford, Sumner.
Axel H. Johnson,	Marquette, McPherson.
John Arthur Johnson,	Manhattan, Riley.
Jesse W. Joss,	Kirksville, *Missouri.*
Ralph Teeter Kersey,	Louisville, Pottawatomie.
Kenneth William Kimble,	Manhattan, Riley.
Hernon Curtis Kyle,	Cawker City, Mitchell.
Rose Margaret McCoy,	Manhattan, (Pottawatomie).
Edwin William McCrone,	Haddam, Washington.
Sara Grace McCrone,	Haddam, Washington.
Carl W. McKeen,	Russell, Russell.
Kirk P. Mason,	Cawker City, Mitchell.
Howard David Matthews,	Carthage, *Missouri.*
Vernon Matthews,	Carthage, *Missouri.*
Winfred L. Milner,	Belleville, Republic.
Samuel Erwin Morlan,	Courtland, Republic.
Bessie A. Mudge,	Manhattan, Riley.
Albert Marvin Nash,	Burlington, *Iowa.*
Harold Theodore Nielsen,	Denmark, Lincoln.
Ivan L. Nixon,	Manhattan, Riley.
Virginia Viola Norton,	Manhattan, Riley.
Russell Arthur Oakley,	Reedsville, Marshall.
Anna Louella O'Daniel,	Manhattan, Riley.
Celoa Alice Perry,	Manhattan, Riley.
Burr Nuton Porter,	Oronoque, Norton.
William Arthur Randle,	Bala, Riley.
Alexis Joseph Reed,	Smith Center, Smith.
Jessie A. Reynolds,	Cawker City, Mitchell.
Arthur J. Rhodes,	Manhattan, Riley.
Ernest Chester Ricord,	Esbon, Jewell.
Jennie Florence Ridenour,	Manhattan, Riley.
Kate L. Robertson,	Manhattan, Riley.
Elsie Mary Robinson,	Manhattan, Riley.
Hermann Clare Russell,	Russell, Russell.
William Samuel,	Stockdale, Riley.
Alfred Hayes Sanderson,	Marysville, Marshall.
John Marcus Scott,	Westmoreland, Pottawatomie.
Garfield William Skow,	Leonardville, Riley.
Emma Estella Smith,	Wabaunsee, Wabaunsee.
Horace Frederick Smith,	Wabaunsee, Wabaunsee.
Crete Spencer,	Manhattan, Riley.
Harold Addison Spilman,	Manhattan, Riley.
Lois Stump,	Manhattan, Riley.
Harry Raymond Thatcher,	Greatbend, Barton.

Name.	Post-office and county (or state).
Henry Thomas,	Wichita, Sedgwick.
Helen B. Thompson,	Wamego, (Wabaunsee).
John Augustus Thompson,	Edwardsville, Wyandotte.
Lewis W. Thompson,	Osborne, Osborne.
Sarah Pauline Thompson,	Osborne, Osborne.
John Tompkins,	Waverly, Coffey.
William Turnbull,	Summerfield, Marshall.
Dovie May Ulrich,	Manhattan, Riley.
Alberta Suena Voiles,	Manhattan, Riley.
Orin Russell Wakefield,	Wilsey, Morris.
Leon Vincent White,	Manhattan, Riley.
Alice M. Worley,	Natoma, Osborne.
Walter Scott Wright,	Marvin, Phillips.

SOPHOMORES.

Edward E. Adamson,	Altamont, Labette.
Onatus P. Allen,	Glenelder, Mitchell.
Bertha Edith Allingham,	Manhattan, Riley.
Reuben Stanley Anderson,	Woodward, *Oklahoma.*
James George Arbuthnot,	Cuba, Republic.
Albert Clay Aumann,	Geuda Springs, (Cowley).
Flora Bell Austin,	Osage City, Osage.
Cora May Baird,	Marquette, McPherson.
Flora Evacelia Ballou,	Delphos, Ottawa.
Florence Nina Barger,	Smith Center, Smith.
Asa William Barnard,	Manhattan, Riley.
Frank Lorin Bates,	Kipp, Saline.
William John Beardwell,	Wakeeney, (Graham).
Atwood N. H. Beeman,	St. Louis, *Missouri.*
Louis Blaine Bender,	Highland, Doniphan.
McDonald Biddison,	Manhattan, Riley.
Charles P. Blachly,	Manhattan, Riley.
Charles Walter Scott Silvester Bolton,	Craig, Johnson.
Ruth Augusta Branstine,	Long Island, Phillips.
Walter Brant,	Wichita, Sedgwick.
Charles Robert Brawner,	Axtell, Marshall.
Lewis Burns,	Hoyt, Jackson.
Perry Campbell,	Macksville, Stafford.
Bertha Ellen Cary,	Smith Center, Smith.
Albert F. Cassell,	Beverly, Lincoln.
Levi Charles Chase,	Hoyt, Jackson.
Joseph Griffith Chitty,	Frankfort, Marshall.
Delmer Coffman,	Manhattan, Riley.
Andrew D. Colliver,	Galva, McPherson.
Gertrude Matilda Conner,	Mitchell, Rice.
Perry Alfred Cooley,	Manhattan, Riley.
Bertha Cowles,	Sibley, Douglas.
Walter Leroy Cropper,	Oakvale, Smith.
Elliott Perie Daniels,	Birmingham, Jackson.
Mary E. Davis,	Manhattan, Riley.
Minnie Estella Deibler,	Manhattan, Riley.

Name.	Post-office and county (or state).
Edith De Priest,	Salina, Saline.
Carl O. Duehn,	Clements, Chase.
Olive B. Dunlap,	Walsburg, Riley.
Glen Edgar Edgerton,	Manhattan, Riley.
Carl G. Elling,	North Cedar, Jefferson.
James H. Elliott,	Richfield, Morton.
Jessie Lois Fitz,	Vinland, Douglas.
Hattie L. Forsyth,	Dwight, Morris.
Maud Bernice Fortune,	Manhattan, Riley.
Pearl Frost,	Esbon, Jewell.
Alfred Gallup,	Blue Rapids, Marshall.
Harry Bailey Gaskell,	Sterling, Rice.
George W. Gasser,	Neosho, *Missouri.*
William H. Goodwin,	Detroit, Dickinson.
John Otto Greenawalt,	Princeton, Franklin.
John Bernice Griffing,	Manhattan, Riley.
Francis Linus Grimm,	Solomon, Dickinson.
Mabel Estelle Groome,	Williamsburg, Franklin.
Edna Haines,	Manhattan, Riley.
Mary Elizabeth Longfellow Hall,	Eatonville, Cowley.
Avery Vernon Hancock,	Manhattan, Riley.
Otto Albert Hanson,	Marquette, McPherson.
Harry Vaughn Harlan,	Walnut, Crawford.
Arthur Garfield Harris,	Lincoln, *Nebraska.*
Leland Howell Harvey,	Council Grove, Morris.
Mason Loring Haskell,	Gaylord, Smith.
Mamie Magdelene Hassebroek,	Manhattan, Riley.
Mamie Eva Helder,	Manhattan, Riley.
William A. Hendershot,	Bolivar, *Missouri.*
Henry Hess,	Hesston, Harvey.
William F. Hicks,	Beloit, Mitchell.
Orley Justin Hillyer,	Manhattan, Riley.
Frederick Earl Hodgson,	Little River, Rice.
Dexter Holloway,	Yates Center, Woodson.
Mabel Howell,	Manhattan, Riley.
Bessie Isabel Hudson,	Manhattan, Riley.
Addie Hurlburt,	Sharon Springs, Wallace.
Mildred Irma Hurlburt,	Sharon Springs, Wallace.
Bruce Royalford Jackson,	Garfield, Pawnee.
Evan James,	Bala, Riley.
Cora B. Janes,	Quincy, *Illinois.*
Adolph Sigfrid Johnson,	Kackley, Republic.
Herbert Levering Johnson,	Geneseo, Rice.
James Johnson,	Manhattan, Riley.
Robert Johnson,	Perry, Jefferson.
Fannie Kent,	Oswego, Labette.
Evan Kernohan,	Beverly, Lincoln.
Helen Kernohan,	Beverly, Lincoln.
Charles Franklin Kinman,	Clay Center, Clay.
Luie Edgar Klein,	Manhattan, Riley.
Bertha Krotzer,	Manhattan, Riley.

Name.	Post-office and county (or state).
William C. Lane,	Burlington, Coffey.
Clair Legere,	Hill City, Graham.
Daniel Andrew Logan,	Manhattan, Riley.
Ed. Logan,	Manhattan, Riley.
Roy Earl Zane Long,	Neodesha, Wilson.
Alice M. Loomis,	Crete, *Nebraska.*
George W. Loomis,	Girard, Crawford.
Nellie Reeder McCoy,	Meriden, Jefferson.
Rachel V. McCoy,	Manhattan, (Pottawatomie).
Vera Alta McDonald,	Manhattan, Riley.
Ollie Jane Martin,	Garnett, Anderson.
Freide E. Marty,	Merriam, Johnson.
Chester Arthur Maus,	Topeka, Shawnee.
James G. May,	Manhattan, Riley.
Ruby Estella May,	Manhattan, Riley.
George C. Miller,	Valencia, Shawnee.
Leanore Elizabeth Miller,	Manhattan, Riley.
Percy E. Mills,	Topeka, Shawnee.
Julia Anna Monroe,	Whiting, Jackson.
Bessie May Montgomery,	Smith Center, Smith.
Verda Ellen Murphy,	Manhattan, Riley.
Mabel Regina Nelson,	Wilber, *Oklahoma.*
Frank Newell,	Zeandale, Riley.
Margaret Alice Norton,	Manhattan, Riley.
Mary Lorena O'Daniel,	Westmoreland, Pottawatomie.
Louis Reynolds Parkerson,	Manhattan, Riley.
Ona A. Parsons,	Ozawkie, Jefferson.
Freda E. Patterson,	Blue Rapids, Marshall.
Irving Edmand Pellet,	Eudora, Douglas.
Lenna Belle Perry,	Manhattan, Riley.
Florence Phillips,	Garrison, Pottawatomie.
Myron A. Pierce,	Owatonna, *Minnesota.*
Tom Lawrence Pittman,	Hammond, Bourbon.
Charles A. Pyles,	Morrill, Brown,
Richard Reece,	Lawrence, Douglas.
Abraham F. Regier,	Moundridge, (Harvey).
Emmit D. Richardson,	Glenelder, Mitchell.
Jesse Clyde Rickman,	Manhattan, Riley.
Nellie Eva Rickman,	Manhattan, Riley.
Thurman Guy Rickman,	Manhattan, Riley.
Florence Rebecca Ritchie,	Manhattan, Riley.
Alfred Montgomery Ritner,	Manhattan, Riley.
Jennie Inez Ritner,	Manhattan, Riley.
Fred B. Roberts,	Morrill, Brown.
Jesse Loyde Rogers,	Louisburg, Miami.
O. Roy Rogers,	Wathena, Doniphan.
Hannah Rollins,	Agra, Phillips.
Sarah Rollins,	Agra, Phillips.
Fred Calvin Romig,	Curran, Harper.
Robert A. Sandborn,	Jewell City, Jewell.
Lawrence V. Sanford,	Oneida, Nemaha.

Name.	Post-office and county (or state).
Ranier Henry Sanneman,	Clay Center, Clay.
Mattie E. Sauble,	Cedarpoint, Chase.
James G. Savage,	Bluff Springs, *Illinois*.
Nickolas Schmitz,	Little River, Rice.
Ida Amanda Schorer,	Vining, Clay.
Marie Edith Schorer,	Vining, Clay.
Roy A. Seaton,	Jewell City, Jewell.
John T. Skinner,	Neodesha, Wilson.
Homer A. Smith,	Logan, Phillips.
Margie Smith,	Manhattan, Riley.
Sallie Maud Smith,	Manhattan, Riley.
Dean Snyder,	Oskaloosa, Jefferson.
Guy Emerson Souders,	Manhattan, Riley.
Merlin Selden Spencer,	Chetopa, Labette.
Arthur S. Stauffer,	Newton, Harvey.
Harry L. Stevens,	Green, Clay.
Effie L. Stewart,	Humboldt, Allen.
Halcey Benjamin Stickney,	Stickney, Barton.
Mary Catherine Strite,	Ogden, Riley.
K. Elizabeth Sweet,	Burlington, Coffey.
Charles Bartholow Swift,	Williamsburg, Franklin.
Joseph Earl Tanner,	Laclede, Pottawatomie.
Howard Taylor,	Chapman, Dickinson.
William G. Tellin,	Newton, Harvey.
Wendell Phillips Terrell,	Fort Worth, *Texas*.
Carl Thompson,	Garrison, Pottawatomie.
John Bert Thompson,	Leon, Butler.
Ray Harmon Thompson,	Osborne, Osborne.
Roger S. Thompson,	Osborne, Osborne.
Claude B. Thummel,	Axtell, Marshall.
Norman Lee Town,	Valencia, Shawnee.
Hezekiah Tracy,	New Lancaster, Miami.
Frieda Trunk,	Lyons, Rice.
Marcia Elizabeth Turner,	Rock Creek, Jefferson.
Harry Umberger,	Hymer, Chase.
Gertrude M. Vance,	Manhattan, Riley.
Fred Van Dorp,	Topeka, Shawnee.
Eleanor Belle Van Orsdel,	Riley, Riley.
Laura Bell Ware,	Manhattan, Riley.
Nettie J. Wayland,	Kansas City, Wyandotte.
Frank Cooper Webb,	Clearwater, Sedgwick.
William Allen Webb,	Clearwater, Sedgwick.
Margaret Welter,	Myers Valley, Pottawatomie.
Mary C. West,	Spring Hill, Johnson.
Joe M. Wharton,	Yates Center, Woodson.
Clarence Earl Whipple,	Olivet, Osage.
James Halley Whipple,	Olivet, Osage.
Orville Blaine Whipple,	Olivet, Osage.
Wayne White,	Burlington, Coffey.
George Everett Whitney,	Manhattan, Riley.
Amelia Jennie Wiest,	Manhattan, Riley.

Name.	Post-office and county (or state).
Florence Elaine Wilber,	Belleville, Republic.
D. Clifford Wilcox,	Ottawa, Franklin.
Rose Wilkinson,	Manhattan, Riley.
William J. Wilkinson,	Manhattan, Riley.
Fannie R. Williams,	Manhattan, Riley.
George Leroy Williston,	Manhattan, Riley.
Frederick W. Wilson,	Hill City, Graham.
George Heber Wilson,	Winfield, Cowley.
John T. Wilson,	Fairview, Brown.
Martha Ellen Wilson,	Kellogg, Cowley.
Robert S. Wilson,	Eatonville, Cowley.
Katherine J. Witt,	Hartshorne, *Ind. Territory.*
George Wolf,	Garden City, Finney.
Harold Bert Wolfe,	Kensington, Smith.
Frank Woodruff,	Yates Center, Woodson.
Earnest A. Wright,	Smith Center, Smith.
Emily Elizabeth Yarroll,	Leavenworth, Leavenworth.

FRESHMEN.

Charles Goodrich Abele,	Holton, Jackson.
Harvey Adams,	Ozawkie, Jefferson.
Elva Veola Akin,	Zeandale, Riley.
Pearle Akin,	Manhattan, Riley.
Charles Wesley Allison,	Fort Scott, Bourbon.
Harold H. Amos,	Manhattan, Riley.
George Leslie Ashton,	Keats, Riley.
Earl Axtell,	Fort Worth, *Texas.*
Mabel Adelia Baird,	Arkansas City, Cowley.
Nellie Wilhelmina Baird,	Marquette, McPherson.
Walter Raymond Ballard,	Baxter Springs, Cherokee.
Frank Everett Balmer,	Woodston, Rooks.
Walter Ray Barr,	Manhattan, Riley.
Earle Maynard Baxter,	Manhattan, Riley.
Mabel Baxter,	Manhattan, Riley.
William Fielding Bayne,	Tisdale, Cowley.
Ira J. Beach,	Winfield, Cowley.
Harry N. Bealey,	Morrill, Brown.
Andrew J. Bell,	Beverly, Lincoln.
Kate Bell,	Manhattan, Riley.
Will Benham,	Beloit, Mitchell.
Lyell A. Bentley,	Wallace, Wallace.
Walter Herman Berkey,	Louisburg, Miami.
Evelyne Myrtle Berkley,	Manhattan, Riley.
Arthur N. Berquist,	Lindsborg, McPherson.
Ora Pearl Betz,	Chapman, Dickinson.
Worthy Val Jean Biddison,	Manhattan, Riley.
Louis Ray Bigge,	Stockton, Rooks.
Frank Milton Billick,	Newton, Harvey.
Ida E. Birch,	Manhattan, Riley.
Ethel Bisbey,	Pavilion, Wabaunsee.
Bessie Louisa Blanchard,	Marysville, Marshall.

Name.	Post-office and county (or state).
George L. Bliss,	Ottawa, Franklin.
Campbell Ward Blue,	Springfield, *West Virginia.*
Mary Bolton,	Paxico, Wabaunsee.
Holmes Bottenberg,	Netawaka, Jackson.
Helen Elizabeth Bottomly,	Manhattan, Riley.
Herbert Jefferson Bottomly,	Manhattan, Riley.
Gordon B. Bourne,	Delphos, (Cloud).
William Branstine,	Long Island, Phillips.
Edward Brant,	Wichita, Sedgwick.
Jesse E. Breckbill,	Moonlight, Dickinson.
Flora Edna Brenner,	Manhattan, Riley.
George K. Brenner,	Manhattan, Riley.
Benjamin Franklin Britton,	Fort Worth, *Texas.*
Alexander Dashway Brown,	Manhattan, Riley.
Edwin H. Brown,	Leavenworth, Leavenworth.
Frank E. Brown,	Highland, Doniphan.
G. Homer Brown,	Arkansas City, Cowley.
George W. Brown,	Highland, Doniphan.
William Wilkinson Buckley,	Clyde, Cloud.
Albert Cooper Buffum,	Manhattan, Riley.
Blenda Genevieve Burkman,	Talmo, Republic.
Harvey A. Burt,	Bronson, Bourbon.
Walter E. Burt,	Bronson, Bourbon.
William Archie Bush,	Oakland, Shawnee.
W. Wesley Bush,	Little River, Rice.
Arthur Butler,	Lawrence, Douglas.
Horace Butler,	Lyons, Rice.
Fred Gordon Campbell,	Hutchinson, Reno.
Kate Levenia Campbell,	Manhattan, Riley.
Richard Campbell,	Hutchinson, Reno.
Will Ward Campbell,	Emporia, Lyon.
Samuel Mordecai Carnahan,	Stockdale, Riley.
James Edward Carter,	Oskaloosa, Jefferson.
Robert Archer Cassell,	Manhattan, Riley.
Robert Merritt Chamberlain,	Stockton, Rooks.
Arthur Allen Chubb,	Hoyt, Jackson.
Frederick Maxwell Clark,	Manhattan, Riley.
Norman H. Clark,	Welcome, Geary.
Clyde L. Clarke,	Hoyt, Jackson.
Lida Ethel Clemons,	Manhattan, Riley.
Earle Albert Cole,	Cuba, Republic.
Mary Margaret Cole,	Manhattan, Riley.
Orlo Loomis Coleman,	Oneida, Nemaha.
Roy Venoia Coleman,	Oneida, Nemaha.
Roy Allison Collier,	Liberal, Seward.
Mary P. Colliver,	Galva, McPherson.
Archie Conner,	Lyons, Rice.
Edna L. Converse,	Rhinehart, Dickinson.
George Wallace Cook,	Ottawa, Franklin.
W. Howard Cook,	Kingman, Kingman.
Benjamin Bonham Cooksey,	Emmons, Washington.

Name.	Post-office and county (or state).
Ralph Cooley,	Manhattan, Riley.
Ruth Cooley,	Manhattan, Riley.
Don Carl Corbin,	Owens, *Oklahoma.*
Forrest Leslie Courter,	Downs, Osborne.
Arthur M. Cowan,	Athol, Smith.
Edgar Andrew Cowles,	Eldorado, Butler.
Robert Sherman Crandall,	Newton, Harvey.
Claude Allen Crowl,	Zeandale, Riley.
Everet William Cudney,	Belpre, Edwards.
Herman L. Cudney,	Belpre, Ddwards.
Charles William Cummings,	Wilmore, Comanche.
Roy Dale,	Manhattan, Riley.
William E. Danielson,	Clay Center, Clay.
Dickie Davies,	Green, Clay.
Aurel N. Davis,	Manhattan, Riley.
Edith Nellie Davis,	Manhattan, Riley.
Loea Bessie DeArmond,	Manhattan, Riley.
Florence B. Deputy,	Manhattan, Riley.
Fred A. Diers,	Kinsley, Edwards.
Charles Morton Dole,	Dolespark, McPherson.
Jay L. Dow,	Manhattan, Riley.
Odessa Della Dow,	Manhattan, Riley.
Ula May Dow,	Manhattan, Riley.
George Samuel Dreese,	Halstead, Harvey.
Alice Ada Dresser,	Manhattan, Riley.
Curtis Antony Eastwood,	Berlin, Bourbon.
Perylle Avis Embry,	Ottawa, Franklin.
James Renfrew Esdon,	Olsburg, Pottawatomie.
Cas Nelson Estes,	Stafford, Stafford.
Earl Joy Evans,	Jewell, Jewell.
Williams K. Evans,	Colby, Thomas.
Arthur Eugean Fairman,	Wakefield, Clay.
Minter Farrar,	Axtell, Marshall.
Lena Cora Fay,	Wilsey, Morris.
Scott Stuart Fay,	Wilsey, Morris.
Edith Louisa Felton,	McPherson, McPherson.
Florence May Felton,	McPherson, McPherson.
Harlow Ferguson,	Wabaunsee, Wabaunsee.
Arba C. Ferris,	Conway, McPherson.
Lathrop Weaver Fielding,	Manhattan, Riley.
Lena Finley,	Manhattan, Riley.
Fenton Burn Fleming,	Athol, Smith.
Flora Fern Fleming,	Smith Center, Smith.
Albert E. Foster,	Powhattan, Brown.
Robert Anson Fulton,	Beloit, Mitchell.
Christian A. Gabelman,	Fairport, Ellis.
Clarence Elmer Gaddis,	Cedarville, Smith.
Mary Eliza Gaden,	Riley, Riley.
Newton Staley Gall,	Reserve, Brown.
Philip Dudley Gardiner,	Goddard, Sedgwick.
Eunice May Gates,	Manhattan, Riley.

Name.	Post-office and county (or state).
Mary Mabel Gibbons,	Capioma, Nemaha.
Charles A. Gilkison,	Larned, Pawnee.
David E. Gish,	Acme, Dickinson.
Oliver Holmes Gish,	Acme, Dickinson.
Walter Givens,	Seneca, Nemaha.
Charlotte E. Gledhill,	Portis, Osborne.
Ralph Arthur Glick,	Junction City, Geary.
Bessie Edith Goodyear,	Oatville, Sedgwick.
Philip Goodyear,	Oatville, Sedgwick.
Harry V. Graham,	Beverly, Lincoln.
Elbert Ernest Greenough,	Bennington, Ottawa.
Frederic James Griffing,	Manhattan, Riley.
David H. Gripton,	Smith Center, Smith.
Herbert Revere Groome,	Manhattan, Riley.
Emil Theodore Haggman,	Kackley, Republic.
Mabel Louise Hamilton,	Manhattan, Riley.
Ben C. Hannam,	Choctaw, *Oklahoma.*
Boline Hanson,	Jamestown, Republic.
John Willson Harris,	Chicago, *Illinois.*
John Harrison,	Manhattan, Riley.
Nora Hays,	Manhattan, (Pottawatomie).
Elsie Belle Heacock,	Manhattan, Riley.
Harry Russell Heim,	Lincoln, Lincoln.
George Elmer Hiner,	McFarland, Wabaunsee.
Esther Cecelia Hjelm,	Manhattan, Riley.
Inez Leota Hjort,	Manhattan, Riley,
Benoni Hoffhines,	Marquette, McPherson.
Ethel Hollinger,	Rhinehart, Dickinson.
Joseph Allen Hollinger,	Rhinehart, Dickinson.
Agnes L. Hopper,	Arkansas City, Cowley.
Nicholas Friedriech Horn,	Morrowville, Washington.
Anna Hostrup,	Manhattan, Riley.
Bess May Howe,	Manhattan, Riley.
Jennie Elmilam Howell,	Manhattan, Riley.
Robert Hudgin,	Hinton, *West Virginia.*
Edwin Alden Hutchison,	Canton, McPherson.
Kate M. Hutchinson,	Bellaire, Smith.
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Linnie A. Jacobs,	Garrison, (Riley).
Susie C. Jacobs,	Garrison, (Riley).
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Charles Fredrick Johnson,	Mayday, Riley.
Charles Willard Johnson,	Solomon Rapids, Mitchell.
Edna Johnson,	Marysville, Marshall.
Oscar Johnson,	Talmo, Republic.
Winifred Mae Johnson,	Solomon Rapids, Mitchell.
Katherine Elizabeth Jones,	Wamego, Pottawatomie.
Harry W. Judd,	Manchester, Dickinson.
George Henry Kellogg,	Manhattan, Riley.

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William Louis Kelly,	Mayetta, Jackson.
Harry A. Kennedy,	Lawrence, Douglas.
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William Albert Kern,	Kensington, Smith.
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Pliny Whittier Keys,	Gypsum, Saline.
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Joseph P. Klein,	Manhattan, Riley.
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Harry S. Lamborn,	Burlington, Coffey.
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Georgiana McCutchan,	Wabaunsee, Wabaunsee.
Archie McElroy,	Fort Worth, *Texas*.
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Richard Meyer,	Riley, Riley.
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Fred Carl Miller,	Belvue, Pottawatomie.
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Maude Blanche Custer,	St. George, Pottawatomie.
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Charles Edmond Fuller,	Maple City, Cowley.
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Gale Gibbons,	Manhattan, Riley.
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Emory E. Hamman,	Strawn, Coffey.
Henry John Hamman,	Hartford, (Coffey).
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Nathaniel Hanes,	Claremore, *Indian Territory.*
Prudence Gertrude Hanes,	Sageeyah, *Indian Territory.*
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Edna Belle Hood,	Manhattan, Riley.
Fred H. Leidigh,	Hutchinson, Reno.
Rhoda C. McCartney,	Oakes, *North Dakota.*
Archie E. Moore,	Manhattan, Riley.
Flora A. Nichols,	Des Moines, *Iowa.*
Martha Nitcher,	Ottawa, Franklin.
Edith Pearce,	Baldwin, Douglas.
Sada Hart Shuler,	Halstead, Harvey.
Emmette Wesley Simpson,	Canton, McPherson.
Milton David Snodgrass,	Manhattan, Riley.
Hibbard Henry Thomson,	Wakarusa, Shawnee.
Roy Binghan Vrooman,	Parsons, Labette.
Beth Walter,	Riley, Riley.
(Mrs.) Anna B. Withington,	Manhattan, Riley.

DAIRY SHORT-COURSE STUDENTS.

Edward Adams,	Lyndon, Osage.
Alfred Alleman,	Irving, Marshall.
Jesse Oliver Ambler,	Florence, Marion.
Joe A. Ambler,	Florence, Marion.
Raymond P. Arnold,	Longford, Clay.
Earle Maynard Baxter,	Manhattan, Riley.
Albert Belcher,	Eureka, Greenwood.
J. W. Bigger,	North Topeka, Shawnee.
Herbert R. Blair,	Solomon, (Saline).
John P. Bliss,	Ottawa, Franklin.
Wilbur W. Boggs,	Manhattan, Riley.
Walter L. J. Brown,	Americus, Lyon.
Ralph Buckman,	Topeka, Shawnee.
Charles T. Bull,	Cimarron, Gray.
Maranda Walter Burton,	Lone Star, Douglas.
Daniel Carter,	Solomon, Dickinson.
Elmer L. Christensen,	Marquette, McPherson.
Cecil M. Clark,	Manhattan, Riley.
Robert Sherman Crandall,	Newton, Harvey.
Glenne Davis,	Clay Center, Clay.
Will C. DeSelm,	Oakvale, Smith.
Gustave Eastman,	Ogden, Riley.
Charles Frederick Eldredge,	Porterville, Bourbon.
Walter P. Engle,	Ramona, Marion.
Jesse O. French,	Penalosa, Kingman.
Fred Frank Froelich,	Solomon, Dickinson.
Arthur Goatley,	Valley Hill, *Kentucky.*
Joseph Goode,	Lenexa, Johnson.
H. P. Goodell,	Hutchinson, Reno.

Name.	Post-office and county (or state).
George Guy Gordon,	Sterling, Rice.
Clarence Joseph Griffin,	Vining, Clay.
Elbert Hall,	Claflin, Barton.
William Alex Hamilton,	North Topeka, Shawnee.
W. Herbert Howard,	Mechanicsburg, *Pennsylv'ia.*
George W. Hunt,	Formosa, Jewell.
Luckey E. Jobe,	Hall's Summit, Coffey.
Albert Kessler,	Topeka, Shawnee.
Erastus A. Keys,	Gypsum, Saline.
Pliny Whittier Keys,	Gypsum, Saline.
Philip Leiser,	North Topeka, Shawnee.
William Milroy Lockhart,	Clay Center, Clay.
Thomas Earle McClelland,	Topeka, Shawnee.
Clair T. McKee,	Mulvane, Sumner.
Abner H. McManis,	Beloit, Mitchell.
Leonard R. Manley,	Topeka, Shawnee.
Andy Mantz,	Heizer, Barton.
George E. Merritt,	Greatbend, Barton.
Ralph R. Miller,	Macksville, Stafford.
Roy Lynn Payton,	Hoisington, Barton.
C. A. Peairs,	Chilocco, *Oklahoma.*
J. W. Pilkington,	Waverly, Coffey.
Arthur James Rathbone,	Manhattan, Riley.
Clinton Edwin Rathbun,	Downs, Osborne.
Seneca H. Remington,	Clay Center, Clay.
Dana Schlaegel,	Oneida, Nemaha.
Otto M. Schulz,	Walnut, Crawford.
Coridon Mental Shepherd,	Wakefield, Clay.
Perry E. Snodgrass,	Louisville, Pottawatomie.
Roy Taylor,	Madison, Greenwood.
Charles Frederick Thestrup,	Williamsburg, Franklin.
Frank A. Wakefield,	Kansas City, *Missouri.*
Leroy Weddle,	Louisville, Pottawatomie.
Myron Wade Wheeler,	Logan, Phillips.
John W. White,	Americus, Lyon.
Andrew Wilson,	Brewster, Thomas.
Charles Clarence Winsler,	Abilene, Dickinson.

FARMERS' SHORT-COURSE STUDENTS—Second Term.

Charles M. Baird,	Arkansas City, Cowley.
Harrison Roy Betz,	Chapman, Dickinson.
Richard E. Brown,	Whiting, Jackson.
Stanley Penrhyn Clark,	Manhattan, Riley.
Bernard A. Felton,	McPherson, McPherson.
Roy Gilmore,	Oneida, Nemaha.
John Faubion Goode,	Lenexa, Johnson.
John Guise,	Oneida, Nemaha.
Victor Emanuel Hanson,	Olsburg, Pottawatomie.
J. Arthur Hutchinson,	Bellaire, Smith.
Alex. Ferdinand Johnson,	Morganville, Clay.
George O. Learned,	Stafford, Stafford.

Name.	Post-office and county (or state).
J. Fred Marvin,	Olathe, Johnson.
Harry Star Powell,	Frankfort, Marshall.
Elizabeth Rubart,	Junction City, Geary.
Carl W. Rutty,	Meriden, Jefferson.
Arthur E. Schlaegel,	Oneida, Nemaha.
Jacob A. Schowalter,	Halstead, Harvey.
Leroy Elsworth Sharer,	Monument, (Thomas).
Luther Henry Sharer,	Monument, Logan.
Ward Simon,	Soldier, Jackson.
William Dole True,	Mankato, Jewell.
Frank R. Weisgerber,	Mentor, Saline.
Ira Dean Whitaker,	Chiles, Miami.

FARMERS SHORT-COURSE STUDENTS—First Term.

Henry Dow Ames,	Riley, Riley.
Irvin Garfield Ames,	Riley, Riley.
Reuben A. Anderson,	Agenda, Republic.
Henry Walter Ashcraft,	Manchester, Dickinson.
Ralph Baker,	Saxman, Rice.
Sylvester Baringer,	Beattie, Marshall.
Walter C. Baumgartner,	Newton, Harvey.
John Jacob Beck,	Nickerson, Reno.
Victor Bull,	Marysville, Marshall.
Clarence W. Carter,	Louisburg, Miami.
Guerdon G. Charlton,	Lawrence, (Jefferson).
Olin Garfield Cline,	Liberal, Seward.
Lawrence Warren Colton,	Glasco, Cloud.
Norton Horace Cooper,	Menoken, Shawnee.
Ernest Emmons Courter,	Downs, Osborne.
Howard B. Cox,	Findlay, Linn.
Arthur W. Davidson,	Dillon, Dickinson.
Elmer S. Davis,	Gaylord, Smith.
Melvin John Davisson,	Beattie, Marshall.
Edgar Hamilton Dearborn,	Silverlake, Shawnee.
Melville Robert Dill,	Eskridge, Wabaunsee.
Roy W. Dilsaver,	Athol, Smith.
A. B. C. Dubach,	Wathena, Doniphan.
Howard E. Duncan,	Conway Springs, Sumner.
Ezra Engle,	Abilene, (Grant).
John H. Fee,	Sylvia, Reno.
Mortiermer Shontz Furst,	Peabody, Marion.
Dan F. Gise,	Beloit, Mitchell.
Frederic Halvert Gledhill,	Portis, Osborne.
Zenas E. Godfrey,	Arkansas City, Cowley.
Roscoe Good,	Cimarron, Gray.
Harry Earnest Gordon,	Germantown, Brown.
Philip Levi Griebel,	Webster, Rooks.
Edward Rheinholt Grosser,	Enterprise, Dickinson.
Edward N. Hall,	Junction City, Geary.
R. M. Hammond,	Portis, (Smith).
Watson P. Handley,	Monument, Logan.

Name.	Post-office and county (or state).
Frank Martin Hanson,	Concordia, Cloud.
Grover C. Hattan,	Mounthope, Sedgwick.
Orlo Bertie Haven,	Belleville, Republic.
Arthur Bland Hayes,	Greatbend, Barton.
Arthur Hisey,	Lenora, Norton.
Clyde A. Hobson,	Hardy, *Nebraska.*
Carol Bertie Johnson,	Olsburg, Pottawatomie.
G. Victor Johnson,	Axtell, Marshall.
George Kaad,	Jamestown, Cloud.
Clarence King,	Potwin, Butler.
Forrest M. King,	Winfield, Cowley.
Charles Kleopfer,	Hope, Dickinson.
Frank Kletecka,	Huntsville, Reno.
Otis Lantis,	Sedgwick, Harvey.
Tip H. Lantis,	Sedgwick, Harvey.
J. A. McFadden,	Stafford, Stafford.
Ralph Ira Martin,	Louisburg, Miami.
Floyd M. Massey,	Larned, Pawnee.
Carl Joseph Miller,	Tisdale, Cowley.
James Miller,	Tisdale, Cowley.
O. W. Minear,	Canton, McPherson.
Alphonso Pitt Morse,	Hiawatha, Brown.
Harry S. Moser,	Silverlake, Shawnee.
Lewis J. Munger,	Hollis, Cloud.
Charles Edwin Neal,	Fort Scott, Bourbon.
William Nelson,	Marysville, Marshall.
Malvin C. Newell,	Stafford, Stafford.
Arthur E. Oden,	Sterling, Rice.
Burgess Odor,	Gibbon, *Oklahoma.*
Anson Clifford Olin,	Eudora, Douglas.
Leroy Peckham,	Haven, Reno.
Axel Hugo Peterson,	Saint Mary's, Pottawatomie.
Earl Raymond Poteet,	Red Bridge, *Missouri.*
Ralph Marty Poteet,	Red Bridge, *Missouri.*
William M. Powell,	Hardy, *Nebraska.*
Otto A. Praeger,	Claflin, Barton.
Isaac L. Pyke,	Detroit, Dickinson.
Frank W. Reeves,	Newton, Harvey.
David Eugene Rose,	Douglass, Butler.
Charles Henry Ryan,	Muscotah, (Jackson).
Glen Ryan,	Hope, Dickinson.
Vincent Conkling Sage,	Willard, Shawnee.
Park Ennis Salter,	Augusta, Butler.
Dan T. Schmitt,	Halstead, Harvey.
Robert L. Seaton,	Abilene, Dickinson.
James Benjamin Sherwood,	Concordia, (Republic).
Gomer Estell Shouse,	Shields, Lane.
O. H. Smith,	Galva, McPherson.
Chester Ivyl Spangler,	Perth, Sumner.
Hal. Lewis Sponsler,	Hutchinson, Reno.
Seth Steele,	Eldorado, Butler.

Name.	Post-office and county (or state).
Bayard D. Stratton,	Ottawa, Franklin.
Victor Swanson,	Vliets, Marshall.
John Isaac Thomas,	Millerton, Sumner.
Leslie N. Tinkler,	Gypsum, Saline.
Merval Edwoy Arthur Totten,	Huntsville, Reno.
Charles Albertis Way,	Canton, McPherson.
Jesse C. Weaver,	Wakefield, Clay.
Edward Welter,	Myers Valley, Pottawatomie.
Ira Jasper Windbigler,	Altamont, Labette.
Leonard Wingfield,	Junction City, Geary.
William C. Wise,	Lawrence, Douglas.
John Perry Wood,	Freeport, Harper.
Arch Lykins Woodrum,	Stockton, Rooks.

DOMESTIC SCIENCE SHORT-COURSE STUDENTS—SECOND TERM.

Emma Bork,	Axtell, Marshall.
Anna B. Cole,	Manhattan, Riley.
Emma Dole,	Dolespark, McPherson.
Dorothy Gehrett,	Atchison, Atchison.
Barbara Elizabeth Grimm,	Bonaccord, Dickinson.
Signa J. Ipsen,	Randolph, (Pottawatomie).
Cecelia Larson,	Vesper, Lincoln.
Mabel M. Rooney,	Fairview, Brown.
Flora Isabel Stewart,	Media, Douglas.

DOMESTIC SCIENCE SHORT-COURSE STUDENTS—FIRST TERM.

Addie Adams,	Ozawkie, Jefferson.
Jessie Allen,	Zeandale, Riley.
Dora Eva Allman,	Ellis, (Trego).
Alice Anderson,	Zeandale, Riley.
Grace Bicknell,	Hoisington, Barton.
Margaret Bigelow,	Yates Center, Woodson.
Effie Alma Crawford,	Paola, Miami.
Minnie Bertha Doll,	Larned, Pawnee.
Bessie Pearl Dorman,	Wabaunsee, Wabaunsee.
Leonora Darlin Eggen,	Florence, Marion.
M. Edna Haney,	Williamsburg, Franklin.
Vara S. Hepler,	Manhattan, Riley.
Cora B. Janes,	Quincy, *Illinois*.
Clara Bessie Kessler,	Topeka, Shawnee.
Sadie Elizabeth Knight,	Manhattan, Riley.
Winnie K. Likes,	Pomona, Franklin.
Margerette A. McCullough,	Minneapolis, Ottawa.
Laura Markham,	Throop, Washington.
Viola Mae Martin,	Garnett, Anderson.
Etta B. Metler,	Manhattan, Riley.
Flora A. Nichols,	Des Moines, *Iowa*.
Mattie E. Page,	Ellis, Ellis.
Edna Rader,	Manhattan, Riley.
Clara Edith Shipps,	Zeandale, Riley.
Lyda Smith,	Manhattan, Riley.

Name.	Post-office and county (or state).
Nellie Tufts,	Jamestown, Cloud.
Mattie H. Willard,	Manhattan, Riley.
(Mrs.) Anna B. Withington,	Manhattan, Riley.
Reba Wolf,	Manhattan, Riley.
Alba M. Woods,	Saint George, Pottawatomie.
Hannah Worthington,	Ackerland, Leavenworth.
Sarah D. Yeagley,	Marion, Marion.

APPRENTICES IN SHOPS.

Hugh Allen,	Burns, Marion.
Will A. Barker,	Holton, Jackson.
Jesse Otto Baylor,	Womer, Smith.
Eben D. Brockway,	Wellsville, Franklin.
Fred Buckmaster,	Manhattan, Riley.
Robert Burkholder,	Aulne, Marion.
Pearl Winfield Cloud,	Hamlin, Brown.
Lawrence Warren Colton,	Glasco, Cloud.
Albert V. Compton,	Willis, Brown.
James I. Cunningham,	Beattie, Marshall.
Edgar Hamilton Dearborn,	Silverlake, Shawnee.
Clarence Earl Dickinson,	Vining, Clay.
Julius W. Dinse,	Elmo, Dickinson.
S. Marion Enfield,	Sterling, Rice.
Byron L. Evans,	Mankato, Jewell.
Ben. T. Farman,	Neosho Falls, Woodson.
Alex J. Fraser,	Peabody, Marion.
Elmer Gardner,	Clifton, (Clay).
John V. Goodsheller,	McPherson, McPherson.
John Otto Greenwalt,	Princeton, Franklin.
Fred J. Griffing,	Topeka, Shawnee.
John Julius Hansen,	Burns, Marion.
William Morrill Hite,	Baker, Brown.
Joe Hovel,	Cuba, Republic.
John H. Janzen,	Moundridge, (Harvey).
Silas Edman Jeter,	Saint Clere, Pottawatomie.
Willis Harmon Johnson,	Codell, Rooks.
Sam E. Judd,	Manchester, Dickinson.
John Henry Kindsvater,	Manhattan, Riley.
Van J. Kubin,	McPherson, McPherson.
Bert McClelland,	Maplehill, Wabaunsee.
Fred Evert McManis,	Manhattan, Riley.
Fred Marty,	Longford, Clay.
Earle B. Millard,	Manhattan, Riley.
George C. Milne,	Peabody, Marion.
John Rutherford Minis,	Manhattan, Riley.
Lloyd D. Murray,	Council Grove, Morris.
George G. Neff,	Kincaid, Anderson.
Arnold Nelson,	Greenleaf, Washington.
Robert W. Oakes,	McPherson, McPherson.
Carl Peter August Palmer,	Cleburne, Riley.
John Thompson Parker,	Lakin, Kearny.

Name.	Post-office and county (or state).
Fred Augusta Patterson,	Cottonwood Falls, Chase.
Charles E. Peterson,	Morganville, Clay.
John A. Piper,	Emporia, Lyon.
Benjamin C. E. Roberson,	Belleplaine, Sumner.
Earl Rouse,	Cawker City, Mitchell.
George W. Rundell,	Stafford, Stafford.
Edward Arthur Saint,	Lyons, Rice.
Granville Bond Scanland,	Randall, Jewell.
Charles W. Setzer,	Goddard, Sedgwick.
Harry Allen Shuyler,	Nickerson, Reno.
Bert L. Sitler,	Axtell, Marshall.
Stephon Oscar Stanfield,	Mountayr, Osborne.
Arthur Leroy Stauffer,	South Haven, Sumner.
Benjamin B. Stauffer,	South Haven, Sumner.
Robert Maxwell Sutters,	Gideon, Douglas.
Hayes J. Truax,	Peabody, (Harvey).
William A. Turner,	Rock Creek, Jefferson.
Daniel Unruh,	Dundee, Barton.
Gordon L. Voiles,	Manhattan, Riley.
A. B. Ward,	Manhattan, Riley.
Ralph Kirkland Ware,	Manhattan, Riley.
Elmer L. W. Whitney,	Cuba, Republic.
Herman Whitney,	Cuba, Republic.
Arthur Ward Willits,	Kensington, Smith.
Charles H. Yost,	Chester, *Nebraska.*

APPRENTICES IN PRINTING.

Amy Alena Allen,	Manhattan, Riley.
Bertha May Dana,	Manhattan, Riley.
Azelia Lewis,	Blue Rapids, Marshall.
J. F. Mitchell,	Burlingame, Osage.
Frank Neal,	Topeka, Shawnee.

APPRENTICES IN DAIRYING.

Edward Adams,	Lyndon, Osage.
Raymond P. Arnold,	Longford, Clay.
Cecil M. Clark,	Manhattan, Riley.
Gustave Eastman,	Ogden, Riley.
Fred Frank Froelich,	Solomon, Dickinson.
Arthur Goatley,	Valley Hill, *Kentucky.*
W. Herbert Howard,	Mechanicsburg, *Pennsylvania*
George W. Hunt,	Formosa, Jewell.
Abner H. McManis,	Beloit, Mitchell.
Leonard R. Manley,	Topeka, Shawnee.
Ralph R. Miller,	Macksville, Stafford.
Roy Lynn Payton,	Hoisington, Barton.
Arthur Downes Shepard,	Wayne, Republic.
Roy Taylor,	Madison, Greenwood.
Frank V. Weathers,	Howard, Elk.

SUMMARY.

Classes.	Men.	Women.	Totals.
Graduate	15	17	32
Senior	42	23	65
Junior	81	39	120
Sophomore	130	76	206
Freshman	280	116	396
Preparatory	239	59	298
Special	7	12	19
Dairy	66	.....	66
Farmers' short course	124	1	125
Domestic science short course	.....	41	41
Apprentices	84	3	87
Counted twice	*51*	*8*	*59*
Totals	1,017	379	1,396

From 90 counties of Kansas, 1334.
From 17 other states, 62.

RECORD OF ATTENDANCE, 1879–1902.

College Year.	Domestic science short course	Farmers' short course	Dairy	Apprentice	Hospitants	Special	Preparatory*	First year	Second year	Third year	Fourth year	Postgraduate	Counted twice	Total	Graduated
1878–79	...	...	...	...	...	1	.....	89	89	16	12	.....	...	207	9
1879–80†	...	...	...	...	...	1	.....	166	61	35	11	2	...	276	7
1880–81‡	...	...	...	...	...	6	.....	178	48	24	9	2	...	267	8
1881–82	...	...	...	...	...	5	.....	227	50	19	11	.....	...	312	9
1882–83	...	...	...	...	...	4	.....	241	60	30	12	.....	...	347	12
1883–84	...	...	...	...	...	2	.....	255	92	26	18	2	...	395	17
1884–85	...	...	...	...	...	2	.....	271	71	36	16	5	...	402	14
1885–86	...	...	...	...	...	1	.....	273	91	35	24	4	...	428	21
1886–87	...	...	...	...	...	...	.....	303	100	44	24	10	...	481	21
1887–88	...	...	...	...	...	...	.....	305	92	46	27	2	...	472	22
1888–89†	...	...	...	...	...	...	.....	266	103	41	28	7	...	445	25
1889–90	...	...	...	...	...	1	.....	307	105	63	28	10	...	514	27
1890–91†	...	...	...	...	...	...	.....	343	135	50	53	12	...	593	52
1891–92	...	...	...	...	...	...	.....	336	139	62	37	10	...	584	35
1892–93	...	...	...	...	...	...	.....	339	110	66	43	29	...	587	39
1893–94	...	...	...	...	...	...	.....	275	141	72	42	25	...	555	39
1894–95	...	...	...	...	...	5	.....	276	108	89	64	30	...	572	57
1895–96	...	...	...	...	...	3	.....	353	121	67	71	32	...	647	66
1896–97*	...	...	...	...	...	6	67	321	163	69	62	46	...	734	55
1897–98	...	...	6	9	...	15	77	316	174	77	82	57	10	803	69
1898–99	...	...	26	35	...	40	110	306	177	92	65	40	20	871	53
1899–00†	24	47	51	50	...	32	162	375	163	109	69	27	22	1,094	58
1900–01	47	109	72	79	2	21	318	348	183	80	74	40	52	1,320	69
1901–02	41	125	66	87	...	19	298	396	206	120	65	32	59	1,396	...

* Previous to 1896–'97 the preparatory students were not listed separately from the first-years.

† Requirements for admittance raised.

‡ Course strengthened.

Graduates.

This list is made from the best data obtainable. A favor will be conferred by notifying the College Secretary of any errors or changes.

1867.

Henry L. Denison, A. M., 1257 Clarkson street, Denver, Colo. Official stenographer.
Belle M. (Haines) Pond, A. M., 1821 Clay street, Topeka, Kan. Housewife.
Emma L. (Haines) Bowen, A. M., Manhattan, Kan. Housewife.
John J. Points, A. M., Omaha, Neb. Lawyer.
Martha A. (White) Abbott, A. M., 283 South Oakley avenue, Chicago, Ill. Housewife.

1871.

Emily M. (Campbell) Robinson, A. B. Died in 1877.
Ella F. (Denison) Whedon, A. B., 1845 D street, Lincoln, Neb. Housewife.
Luella M. Houston, A. B., Galveston, Tex. Milliner and dressmaker.
Charles O. Whedon, B. S., 1845 D street, Lincoln, Neb. Lawyer.
Kate E. (White) Turley, A. B., Chicago, Ill. Housewife.

1872.

Theophania M. (Haines) Huntington, A. B. Died in 1880.
Albert Todd, A. M., Presidio, Cal. Captain Sixth U. S. artillery.
S. Wendell Williston, A. M., M. D., Ph. D., Lawrence, Kan. Dean of medical school, University of Kansas.

1873.

Eliza Z. (Davis) Stringfield, A. B., 1111 Santee street, Los Angeles, Cal. Housewife.
Sam Kimble, A. B., Manhattan, Kan. Lawyer; judge twenty-first district.

1874.

Harry A. Brous, A. M., M. D., Manhattan, Kan. Physician.
Edgar F. Clark, A. B., New Whatcom, Wash. Lawyer and post-office inspector.
John E. Davis, B. S., D. D. S., 737 Oak street, Columbus, Ohio. Dentist.
Willian D. Gilbert, A. B., Atchison, Kan. Lawyer; inspector of rural free-delivery routes.
A. Judson White, A. B., Manhattan, Kan. Minister.

1875.

Reuben E. Lofinck, B. S., Manhattan, Kan. Merchant.
Alice E. (Stewart) Points, A. M. Teacher.

1876.

George A. Gale, A. B., Mangona, Fla. Merchant and postmaster.
Ella M. (Gale) Kedzie, A. B., Lansing, Mich. Teacher of art.
Nellie (Sawyer) Kedzie Jones, M. S., Berea, Ky. Housewife.
Carrie M. Kimball, A. B., Garden Grove, Cal. Art instructor.
Minerva E. (Whitman) Heiser, A. B., Lyndon, Kan. Housewife.

1877.*

Ella S. Child, Manhattan, Kan. Dressmaker.
George H. Failyer, M. S., Manhattan, Kan.
John S. Griffing. M. S., Manhattan, Kan. Teamster for farm department Kansas State Agricultural College.
Walter C. Howard, Penryn, Placer county, California. Minister.
Frederick O. Hoyt. Died in 1884.
Louis E. Humphrey, Chapman. Kan. Druggist.
James F. La Tourette, Idaho Springs, Colo. Miner.
Marion F. Leasure, LL. B., Lacygne, Kan. Lawyer.
William Ulrich, M. S., Manhattan, Kan. Contractor and builder.

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*B. S. has been granted all graduates since 1877.

1878.*

Albert N. Godfrey, M. S., Port Townsend, Wash. United States customs service.
Charles S. McConnell. Died in 1902.
George S. Platt. Died in 1878.
Amos E. Wilson, Leavenworth, Kan. Banker.

1879.*

Arthur T. Blain, Lacanada, Cal. Nurseryman.
Etta (Campbell) Blain, Lacanada, Cal. Housewife.
Wilmer K. Eckman, Longview, Tex. Bank cashier.
Corvin J. Reed, St. Clere, Kan. Farmer.
Harry C. Rushmore, 723 Buchanan street, Topeka, Kan. Commercial traveler.
Wm. H. Sikes, Leonardville, Kan. Merchant and grain dealer.
Lewis A. Salter, Camden, Okla. Lawyer.
Ella (Vincent) McCormick, Broughton, Kan. Bookkeeper.
Clarence E. Wood, A. B., Cherokee, Okla. Editor.

1880.*

Augustine Beacham, Seattle, Wash. Principal of schools.
Lizzie R. (Cox) Kregar, Milford, Kan. Housewife.
Emma (Hoyt) Turner, Peru, Ill. Housewife.
Emma (Knostman) Huse, Manhattan, Kan. Housewife.
Grace (Parker) Perry, Pocatello, Idaho. Housewife.
Noble A. Richardson, San Bernardino, Cal. Superintendent of city schools.
Maria E. (Sickels) Davis, Chicago, Ill. Housewife.

1881.*

Flora (Donaldson) Reed, St. Clere, Kan. Housewife.
Ulysses G. Houston, Kingfisher, Okla. Lecturer.
Fletcher M. Jeffrey, 313 and 314 Pioneer building, Seattle, Wash. Lawyer.
William J. Jeffrey. Died in 1900.
Darwin S. Leach, ——, Africa.
William J. Lightfoot, 4557 Twenty-seventh avenue, Denver, Colo. United States examiner of surveys.
Dalinda (Mason) Cotey, Logan, Utah. Professor of domestic arts, State Agricultural College of Utah.
Wirt S. Myers, Tampa, Fla. Furniture manufacturer.

1882.*

J. Chester Allen. Died in 1885.
Ida (Crawford) Sloan.
Edward V. Cripps.
Warren Knaus, M. S., McPherson, Kan. Editor.
Mattie E. (Mails) Coons, Manhattan, Kan. Housewife.
Allie S. (Peckham) Cordry, Hutchinson, Kan. Housewife and art teacher.
Belle (Selby) Curtice, 604 American Bank building, Kansas City, Mo. Housewife.
Burton L. Short, Kansas City, Kan. Assistant postmaster.
John A. Sloan.

1883.*

James W. Berry, Jewell City, Kan. Lumberman and contractor.
Mary C. Bower, Manhattan, Kan. Clerk.
Lewis W. Call. LL. M., D. C. L., Washington, D. C. Chief clerk, judge-advocate general's office, United States war department.
Emma E. Glossop, 503 Antoine street, St. Joseph, Mo. Teacher.
William J. Griffing, Manhattan, Kan. Farmer and fruit-grower.
Phœbe E. Haines, M. S., Manhattan, Kan. At home.
Hortense L. (Houston) Martin, Miami, I. T. Housewife.
Jacob Lund, M. S., Manhattan, Kan. Superintendent of heat and power department, Kansas State Agricultural College.
Katie I. (Meguire) Sheldon, Riverside, Cal. Housewife.
J. Dana Needham, Lane, Kan. Merchant.
Milan T. Ward, M. D., Orion, Ill. Physician.
Julius T. Willard, M. S., Manhattan, Kan. Professor of chemistry, Kansas State Agricultural College; director Experiment Station.

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*B. S. has been granted all graduates since 1877.

1884.*

Emmett S. Andress, Lakin, Kan. Farmer.
Florence J. Brous, 704 St. Paul street, Kansas City, Kan. Teacher.
Bartholomew Buchli, M. S., D. V. S., Alma, Kan. County clerk.
John H. Calvin, LL. B. Died in 1898.
William A. Corey, Salt Lake City, Utah. Teacher and editor.
Henry M. Cottrell, M. S., Manhattan, Kan. Professor of agriculture, Kansas State Agricultural College.
Carrie F. (Donaldson) Brown, Portland, Ore. Housewife.
Florence A. Donaldson. Died in August, 1888.
Frank W. Dunn, Patagonia, Ariz. Assayer.
I. Day Gardiner. Died in 1899.
Edwin H. Kern, Cripple Creek, Colo. Mining engineer.
Marion M. Lewis. Died in 1895.
Charles L. Marlatt, M. S., 1440 Massachusetts avenue, Washington, D. C. First assistant in entomological division, United States department of agriculture.
Lincoln H. Neiswender, Silver Lake, Kan. Farmer.
Geo. C. Peck, Junction City, Kan. Feed dealer.
Hattie L. (Peck) Berry, Jewell City, Kan. Housewife.
John W. Shartel, Oklahoma City, Okla. Lawyer.

1885.*

Thomas Bassler, Batchelder, Okla. Horticulturist.
Albert Deitz, 2402 Fairmount avenue, Kansas City, Mo. Merchant.
George E. Hopper, M. S., Arkansas City, Kan. Contractor.
Florence F. Hough, Great Bend, Kan.
Frank A. Hutto, Ph. D., Stillwater, Okla. Professor of history and economics, Oklahoma Agricultural and Mechanical College; graduate student Kansas State Agricultural College.
J. Allen Lewis, M. S., C. E., 288 South Oakley avenue, Chicago, Ill. Civil engineer.
Nellie J. Murphy, South Denver, Colo. Trained nurse.
Arthur L. Noyes, Wabaunsee, Kan. Farmer.
Clarence D. Pratt, Dallas, Tex. General agent paint company.
Rollin R. Rees, Minneapolis, Kan. Attorney and member of legislature.
Frederick J. Rogers, M. S., Leland Stanford, Cal. Instructor in physics, Leland Stanford Jr. University.
Dorothy E. C. (Secrest) Hungerford, Randolph, Kan. Housewife.
Grace Wonsetler, M. D., Chicago, Ill. Physician.
Effie E. (Woods) Shartel, Oklahoma City, Okla. Housewife.

1886.*

Lillie B. Bridgman, M. S., corner Sixteenth and Utah streets, San Francisco, Cal. Professor of physics, California School of Mechanic Arts.
Louis P. Brous, M. S., Torrion, Mexico. Architect for Schwarzschild & Sulzberger Packing Company.
Paul H. Fairchild, M. D., 100 William street, New York city. Publisher of medical journals, and president of Pulvola Chemical Company.
Abbott M. Green, Adin, Cal. Civil engineer and teacher.
James G. Harbord, M. S. Captain Eleventh U. S. cavalry, division of insular affairs, war department, Philippine Islands.
John U. Higinbotham, 205 La Salle street, Chicago, Ill. Cashier National Biscuit Company.
Maria C. (Hopper) Getty, Downs, Kan. Housewife.
E. Ada (Little) MacEwan, Logan, Utah. Housewife.
Frank L. Parker, Hutchinson, Kan. Merchant.
Edward H. Perry, Oklahoma City, Okla. Editor and publisher.
H. Augustus Platt, Guthrie, Okla.
Ada H. (Quinby) Perry, Oklahoma City, Okla. Housewife.
Ida H. (Quinby) Gardiner, Santa Barbara, Cal. Housewife.
Minnie Reed, M. S., Santa Ana, Cal. Teacher in high school.
David G. Robertson, 100 Washington street, Chicago, Ill. Lawyer.
Edward O. Sisson, Peoria, Ill. Director Bradley Polytechnic Institute.
John W. Van Deventer, Sterling, Colo. Editor and publisher.
George W. Waters, Dillon, Colo. Ranchman.

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* B. S. has been granted all graduates since 1877.

William E. Whaley, 5418 Greenwood avenue, Chicago, Ill. Dean and instructor in history, South Side Academy.
F. Henrietta (Willard) Calvin, Manhattan, Kan. Librarian Kansas State Agricultural College.
John L. Wise, Smithboro, Ill. Merchant.

1887.*

Edgar A. Allen, Wyandotte, Ind. Superintendent of Indian school.
Fred H. Avery. Died in 1896.
Claude M. Breese, M. S., Manhattan, Kan. County clerk.
John B. Brown, M. S., Mount Morris, Minn. Supt. of Morris Training School for Indians.
Walter J. G. Burtis, Fredonia, Kan. Farmer.
Mark A. Carleton, M. S., Washington, D. C. Cerealist, division of vegetable physiology and pathology, United States department of agriculture.
Nellie E. (Cottrell) Stiles, Fullerton, Cal. Housewife.
Bert R. Elliott, Dawson City, Alaska. Miner.
Frederick B. Eiliott, Manhattan, Kan. Real-estate and insurance agent.
Clara M. Keyes, Warner, Cal. Teacher.
Fred. G. Kimball, St. Michaels, Alaska. Chief postal clerk.
Frederick A. Marlatt, Manhattan, Kan. Proprietor Blue Valley Manufacturing Company.
William J. McLaughlin, Randolph, Utah. Editor.
Mary E. Moses, Manhattan, Kan. At home.
Charles A. Murphy, Clay Center, Kan. Teacher of science, Clay county high school.
Orlando G. Palmer, LL. M., Alva, Okla. Professor of history and civics, Northwest Territory Normal School.
Louis B. Parker. Died in 1889.
James E. Payne, M. S., Fort Collins, Colo. Field agent in charge of plains investigation, Colorado Experiment Station.
Seward N. Peck, Topeka, Kan. Cabinet-maker, railroad shops.
George N. Thompson, Belmond, Iowa. Mechanic.
Willis M. Wright, Jennings, La. Farmer.

1888.*

Grant Arnold, Toledo, Wash. Teacher.
Bertha H. Bacheller, M. S., Kansas City, Mo. Teacher of domestic science, manual training school.
Clement G. Clarke, Plainville, Conn. Minister.
Alexander C. Cobb, Wagoner, I. T. Farmer and carpenter.
Mattie (Cobb) Clarke, Plainville, Conn. Housewife.
Minnie H. Cowell, Steyning, Sussex, England. Trained nurse.
Lyman H. Dixon, Buffalo, N. Y. Architect.
David G. Fairchild, M. S., Washington, D. C. Agricultural explorer, department of agriculture.
Carl E. Friend, Soldier, Kan. Banker.
John R. Harrison, Washington, D. C. Post-office inspector.
Humphrey W. Jones, 1251 Lincoln street, Topeka, Kan. Teacher of music in city schools.
Nathan E. Lewis, 149 East Fifth street, Plainfield, N. Y. Draughtsman.
Abbie L. Marlatt, M. S., 261 Benefit street, Providence, R. I. Teacher of domestic science, manual training school.
William C. Moore, Parsons, Kan. Editor and publisher.
Ernest F. Nichols, Hanover, N. H. Professor of physics, Dartmouth College.
Harry E. Robb, Eureka, Kan. Farmer and county surveyor.
Anna Snyder, Emporia, Kan. Student State Normal School.
Edwin H. Snyder, Kansas City, Kan. Teacher in school for blind.
Oliver L. Utter, 72 Mount Vernon street, Boston, Mass. Student in Boston University.
Aaron Walters. Died in 1892.
Lora L. (Waters) Beeler, M. S., 2469 N. Springfield avenue, Irving Park, Chicago, Ill. Housewife.
Daniel W. Working, jr., box 432, Denver, Colo. Farmer.

1889.*

Emma A. Allen. Died in 1891.
Joseph W. Bayles, Onaga, Kan. Minister.
Walter R. Browning, Padonia, Kan. Grain dealer.
David E. Bundy, Braman, Okla. Minister.
Samuel S. Cobb, Wagoner, I. T. Cattle dealer.
Judson S. Criswell, Manhattan, Kan. Sales clerk.

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*B. S. has been granted all graduates since 1877.

Mattie I. (Farley) Carr, Winthrop, Wash. Housewife.
Clarence E. Freeman, M. S., Chicago, Ill. Associate professor of electrical engineering, Armour Institute of Technology.
Hattie L. (Gale) Sanders, Mangona, Fla. Housewife.
John S. Hazen, Springfield, Mo. United States weather bureau observer.
Albert B. Kimball, Scandia, Kan. Editor and postmaster.
William Knabb, Hiawatha, Kan. Assistant bank cashier.
Mary C. Lee, Manhattan, Kan. At home.
Alonzo A. Mills, Fullerton, Cal.
Susan W. Nichols, 637 North Tenth street, St. Joseph, Mo. Music teacher.
Walter H. Olin, M. S., Ottawa, Kan. Graduate student Kansas State Agricultural College.
Eli M. Paddleford, Birmingham, Kan. Minister.
Maude F. (Sayers) DeLand, 4610 Forbes street, Pittsburgh, Pa. Housewife.
Florine (Secrest) Linderman, Willow Glen, San Jose, Cal. Housewife.
Stanley Snyder, Oskaloosa, Kan. Farmer.
Charles W. Thompson, Holton, Kan. Dentist.
Jane C. Tunnell, Joliet, Ill. Instructor in pedagogy.
Ina M. (Turner) Bruce, St. Louis, Mo. Housewife.
Robert U. Waldraven, Rosedale, Kan. Minister.
Henry S. Willard, M. D., Manhattan, Kan. Physician and druggist.

1890.*

Samuel I. Borton, Rocky Ford, Colo. Farm superintendent, American Beet Sugar Company.
Frank A. Campbell, Highlands, Colo. Reporter.
Arthur F. Cranston, Parsons, Kan. Lawyer.
John Davis, Alva, Okla. Professor of English and literature, Oklahoma Normal School.
Grant W. Dewey, Manhattan, Kan. Photographer.
Charles J. Dobbs, 1217 Benny Way, Seattle, Wash. Lawyer.
Charles W. Earle, 917 E street, Denver, Colo. Advertising agent.
Schuyler C. Harner, Keats, Kan. Teacher and farmer.
John W. Ijams, Orlando, Okla. Teacher.
Bertha S. (Kimball) Dickens, M. S., Manhattan, Kan. Housewife.
Harriet E. (Knipe) Curtis, Council Grove, Kan. Housewife.
Nellie P. (Little) Dobbs, 1217 Benny Way, Seattle, Wash. Housewife.
Ellsworth Thomas Martin, LL. B., Chicago, Ill. Lawyer.
Silas C. Mason, M. S., Berea, Ky. Professor of horticulture and biology, Berea College.
Wilton L. Morse, Mancos, Colo. Farmer.
Albert E. Newman, Watonga, Okla. County superintendent and editor.
Julia R. Pearce, Washington, D. C. Assistant in bureau of soils, United States department of agriculture.
Emil C. Pfuetze, Manhattan, Kan. Lumber dealer.
William H. Sanders, Mangona, Fla. Plumber and builder.
Emma Secrest, A. M. Died in 1898.
Marie Barbara Senn, M. S., Fargo, N. Dak. Instructor in domestic economy, North Dakota Agricultural College.
Ralph Snyder, Oskaloosa, Kan. Farmer and stockman.
George E. Stoker, A. B, Topeka, Kan. Lawyer.
Walter T. Swingle, M. S. Traveling in Africa for division of vegetable pathology, United States department of agriculture.
Gilbert J. Van Zile. Died in 1899.
Harry N. Whitford, M. S., Chicago, Ill. Assistant in botany, University of Chicago.
Thomas E. Wimer. Died in 1890.

1891.*

William Aaron Anderson, 1700 Walnut street, Kansas City, Mo. Bookkeeper Culver Lumber Company.
William Sherman Arbuthnot, D. V. S., Republic, Kan. Veterinary surgeon and druggist.
Herman William Avery, Wakefield, Kan. Farmer and merchant.
Judd Noble Bridgman, M. S., Leavenworth, Kan. Engineer.
Robert James Brock, Manhattan, Kan. Lawyer and county attorney.
Francis Charles Burtis, M. S., Stillwater, Okla. Professor of agriculture and horticulture, Oklahoma Agricultural and Mechanical College.
Charles Albert Campbell, 1947 North Seventh street, Philadelphia, Pa. Minister.
Spencer Norman Chaffee, Kansas City, Mo. Student medical college.

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*B. S. has been granted all graduates since 1877.

Clay Ephraim Coburn, 422 North Fourth street, Kansas City, Kan. Physician.
Gertrude Coburn, Kansas City, Kan. At home.
Tina Louise (Coburn) Tomson, Cedar Rapids, Iowa. Housewife.
Rachel Callie (Conwell) Thoburn, Manhattan, Kan. Teacher.
Christine Mossman Corlett, Guthrie, Okla. Teacher.
Mary Emmeline (Cottrell) Payne, M. S., Fort Collins, Colo. Housewife.
Phil Sheridan Creager, Kansas City, Mo. Telegraph editor, Kansas City *Journal*.
Kary Cadmus Davis, Morgantown, W. Va. Professor of botany and horticulture, West Virginia University.
Thomas Clarke Davis, Benedict, Kan. Farmer.
Helen Pearl (Dow) Peck, 112 Marlborough road, Brooklyn, N. Y. Housewife.
Anna (Fairchild) White, Brooklyn, N. Y. Housewife.
Harry Benson Gilstrap, Chandler, Okla. Editor, publisher, and postmaster.
Almon Arthur Gist, Fort Riley, Kan. Telegraph operator and station agent.
Amy Myrtle (Harrington) Deibler, Leadville, Colo. Housewife.
Delpha May (Hoop) Montgomery, Tampa, Kan. Housewife.
Mayme Amelia (Houghton) Brock, Manhattan, Kan. Housewife.
Willis Wesley Hutto, Manhattan, Kan. Painter and paper-hanger.
George Victor Johnson, Sedan, Kan. Editor.
Frank Mullett Linscott, D. V. S., Farmington, Kan. Stock-raiser.
Bessie Belle Little, Philadelphia, Pa. Teacher of physical culture, Bryn Mawr College.
Albert Edward Martin, Streator, Ill. Manager telephone company.
Nellie Evangeline (McDonald) Thayer. Died in 1902.
David Collins McDowell, Elkton, Colo. Merchant.
Alfred Midgley, Minneapolis, Kan. Clerk.
Madeleine Wade Milner, 6514 Kimbark avenue, Chicago, Ill. Assistant librarian, Armour Institute.
Paul Chambers Milner, 6514 Kimbark avenue, Chicago, Ill. Assistant exchange teller, Illinois Trust and Savings Bank.
Harry Elbridge Moore, Kingfisher, Okla. Implement dealer.
John Otis Morse, Mound City, Kan. Lawyer and clerk of district court.
Hattie May Noyes, Manhattan, Kan. Teacher and graduate student, Kansas State Agricultural College.
Louise (Reed) Paddleford, Birmingham, Kan. Housewife.
Artemus Jackson Rudy, Fresno, Cal. Fruit-raiser.
Henry Vernon Rudy, Fresno, Cal. Fruit-raiser.
Charlotte Jane (Short) Houser, M. S., [B. S. Dickinson College, Carlisle, Pa.,] Danville, Pa. Housewife.
Ben Skinner, M. D., Granada, Kan. Physician.
Caroline Scott (Stingley) Van Blarcom. Died in 1899.
Lillian Alice (St. John) Williams, 841 Osage avenue, Kansas City, Kan. Housewife.
Ellis Cheney Thayer, Manhattan, Kan. Farmer.
Sam L. Van Blarcom, M. D., 817 Garfield avenue, Kansas City, Kan. Railway postal clerk.
Frank Albert Waugh, M. S., Burlington, Vt. Professor of horticulture in Vermont University.
Fannie Elizabeth (Waugh) Davis, M. S., Morgantown, W. Va. Housewife.
Flora Emilie Wiest, Manhattan, Kan. Teacher.
Bertha (Winchip) Spilman, 515 Second street, S. E., Washington, D. C. Housewife.
Alfred Orin Wright, Jennings, La. Farmer.
Effie Jeanetta Zimmerman, M. S., Moray, Kan. Journalist.

1892.

Grace Maria Clark, M. S., Disputanta, Ky. Farmer.
George L. Clothier, M. S., New Haven, Conn. Student of forestry, Yale University.
Lillian Clyde Criner, McPherson, Kan. Editor.
Harry Darnell, Kelso, Wash. Principal of schools.
William H. Edelblute, Harrison, Idaho.
Elizabeth (Edwards) Hartley, Manhattan, Kan. Housewife.
John Frost, Schroyer, Kan. Farmer.
Effie (Gilstrap) Frazier, Chandler, Okla. Housewife.
Ava (Hamill) Tillotson, M. S., Hill City, Kan. Housewife.
J N Harner. Died in 1897.
Loyall S. Harner, 1122 Lincoln street, Colorado Springs, Colo. Clerk.

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*B. S. has been granted all graduates since 1877.

Charles Pinckney Hartley, M. S., Washington, D. C. Division of vegetable physiology and pathology, United States department of agriculture.
John William Abraham Hartley, Manhattan, Kan. Farmer and teacher.
James Laird McDowell, Elkton, Colo. Assayer.
Robert A. McIlvaine, Durham, Kan. Principal of schools.
Kate (Oldham) Sisson, Columbus, Ohio. Housewife.
Daniel Henry Otis, M. S., Manhattan, Kan. Professor of dairying, Kansas State Agricultural College.
Ivan Bryan Parker, M. D., Hill City, Kan. Physician, and president Graham County State Bank.
Warner S. Pope. Died in 1899.
Burton Homer Pugh, Topeka, Kan. Merchant.
Elias W. Reed, Ann Arbor, Mich. Medical student.
Robert Stirling Reed, Emporia, Kan. Student State Normal School.
Arthur Daniel Rice, Rossville, Kan. Minister.
Fred C. Sears, M. S., Wolfville, Nova Scotia. Director of provincial school of horticulture.
Birdie E. Secrest, Randolph, Kan. Clerk.
May Secrest, 1230 Amsterdam avenue, New York city. Student Columbia University.
Ruth Tipton (Stokes) Sears, M. S., Wolfville, Nova Scotia. Housewife.
Harry W. Stone, Portland, Ore. General secretary Y. M. C. A.
Walter Percival Tucker, Avino, Est. de Durango, *via* Eagle Pass, Mexico. Accountant for mining company.
Mary Alice (Vail) Waugh, Burlington, Vt. Housewife.
Robert Lynn Wallis. Died in 1895.
Ora Rebecca (Wells) Traxler, Irving, Kan. Housewife.
Daniel F. Wickman, P. O. box 107, Topeka, Kan. Farmer.
George Washington Wildin. Mechanical engineer.
Charles Ernest Yeoman. Died in 1902.

1893.*

Edmund Clarence Abbott, Red River, N. M. Lawyer.
Edwin McMaster Stanton Curtis, Houston, Tex. Clerk in Missouri Pacific railroad office.
Corinne Louise (Daly) Burtis, Stillwater, Okla. Housewife.
Laura Greeley Day, Wichita, Kan. Special lecturer on domestic economy, Purdue University.
Ione (Dewey) Sutherland. With King Dodo Opera Company.
Albert Dickens, Manhattan, Kan. Acting professor of horticulture, Kansas State Agricultural College.
Mary Maud Gardiner, M. S., Stillwater, Okla. Professor of domestic science, Oklahoma Agricultural and Mechanical College.
Susie (Hall) Linscott, Farmington, Kan. Housewife.
Mary Francis Burgoyne Harman, Kansas City, Kan. Teacher of art, Kansas City high school.
Ivy Francis Harner, M. S., Ruston, La. Professor of domestic science, Louisiana Industrial Institute.
Margaretha Elise Horn, Dr. O., 335 Hubbard avenue, Detroit, Mich. Teacher of sciences, Detroit high school.
Marcia Ione Hulett, Akron, Ohio. Osteopathist.
Mac F. Hulett, 120 East Gay street, Columbus, Ohio. Osteopathist.
Fred Hulse, Manhattan, Kan. Carpenter.
Charles Augustus Kimball, Courtland, Kan. Editor and lawyer.
Maud Ethel Knickerbocker, Terraville, S. Dak. Teacher.
Thomas Eddy Lyon, Springfield, Ill. Lawyer.
William Otis Lyon, 103 Seaton street, N. W., Washington, D. C. Clerk.
McLeod Wilson McCrea, Winchester, Kan. Farmer.
Rose Edith McDowell, Elkton, Colo. At home.
George Lane Melton, Chicago, Ill. Student University of Chicago.
Eusebia DeLong (Mudge) Thompson, Marysville, Kan. Housewife.
Nora (Newell) Hatch, Manhattan, Kan. Housewife.
August Fred. Niemoller, Stitt, Kan. Teacher.
Susie Amanda Noyes. Died in 1894.
Henry Leamer Pellett, 1524 Chestnut street, Philadelphia, Pa. Physician.
Charles John Peterson, Topeka, Kan.
Carl Frederic Pfuetze, Manhattan, Kan. Lumber dealer.
John Dewitt Riddell, M. D., Enterprise, Kan. Physician.

---

*B. S. has been granted all graduates since 1877.

John Albert Rokes, Holton, Kan. Lawyer.
Agnes (Romick) Edgar, Salubra, Idaho. Housewife.
Fred. Raymond Smith, Manhattan, Kan. Lawyer and court stenographer.
George Wildman Smith, M. D., 1328 North Fortieth street, Omaha, Neb. Physician.
William Elmer Smith, 501, 502 and 503 Massachusetts building, Kansas City, Mo. Lawyer.
John Eugene Thackrey, 2832 Holly street, Kansas City, Mo. Minister.
Joseph B. Thoburn, Oklahoma City, Okla. Editor.
Charles Henry Thompson, Santa Cruz, Cal. Poultry farmer.
George K. Thompson, Marysville, Kan. County superintendent.
William James Yeoman, Mankato, Kan. Merchant.

1894.*

Frank Weber Ames, New York, N. Y. Clerk National Steel Company.
Clara Francelia Castle, M. S., Manhattan, Kan. At home.
George Luther Christensen, Houghton, Mich. Instructor in mechanical engineering, Michigan School of Mines.
John Cornelius Christensen, Manhattan, Kan. Assistant county treasurer.
Lorena Estella Clemons, Manhattan, Kan. Secretary Kansas State Agricultural College.
Martha Cottrell, Wabaunsee, Kan. At home.
Sarah Esther (Cottrell) Wright, Jennings, La. Housewife.
Alverta May Cress, Riley, Kan. At home.
Fannie Jane Cress, 71 Walton place, Chicago, Ill. Artist.
Ernest A. Donaven, M. D., Mounthope, Kan. Physician.
Jephthah W. Evans, M. D., Blue Rapids, Kan. Physician.
Isabelle Russell (Frisbie) Criswell, Manhattan, Kan. Housewife.
Eugene Leonard Frowe. Died in 1898.
Walter Harling, Montone, Cal. Assistant in Montone Sanitarium.
Lorena Marguerite Helder, Manhattan, Kan. At home.
Mark V. Hester, Lawrence, Kan. Student University of Kansas.
Charles Ross Hutchings, Argentine, Kan. Civil and sanitary engineer.
Isaac Jones, jr., Etiwanda, Cal. Fruit-grower.
Stella Victoria Kimball, Manhattan, Kan. Teacher in city schools.
Mary Eliza (Lyman) Otis, M. S., Manhattan, Kan. Housewife.
William Henry Moore, Manhattan, Kan. Florist and horticulturist.
Sarah (Moore) Foster, 314 Melrose ave. N., Seattle, Wash. Housewife.
James Francis Odle, Manhattan, Kan. Farmer.
Charles Randolph Pearson, Hoxie, Kan. Teacher.
Horace Greeley Pope, 413 and 414 Massachusetts building, Kansas City, Mo. Lawyer.
Minnie Louisa Romick, 567 North Gordon street, Pomona, Cal. Teacher.
Winnie Luella (Romick) Chandler, Argentine, Kan. Housewife.
Victor Irvin Sandt, Wells, Minn. Principal of manual training.
John Alfred Scheel, ——, N. Dak. Farmer.
Jacob Ulrich Secrest, Randolph, Kan. Farmer.
Charles Chrisfield Smith, Manhattan, Kan. Editor.
Jennie Ruth (Smith) Strong, Kinsley, Kan. Housewife.
Wesley Ohio Staver, ——, California. Lawyer.
John Stingley, station "A," Kansas City, Mo. Traveling salesman.
John Edwin Taylor. Died in 1896.
Delbert L. Timbers, Osborne, Kan. Teacher.
Phebe Carey Turner, Wabaunsee, Kan. Teacher.
Samuel Robert Vincent, Orie, Okla. Teacher.
Lucy Helena Waters, A. M., Livermore, Cal. Teacher in high school.

1895.

Edward Jones Abell, Leonardville, Kan. Farmer and teacher.
Carl D. Adams, 515 Miami avenue, Kansas City, Mo. Swift Packing Company.
Robert John Barnett, Manhattan, Kan. Assistant postmaster.
Burton Wesley Conrad, Sabetha, Kan. Liveryman.
Florence Ruth Corbett, Brooklyn, N. Y. Supervisor of domestic science, Kings county hospital.
Sid Henry Creager, Kansas City, Mo. Railway postal clerk.
Elsie Emeline Crump, Manhattan, Kan. Teacher city schools.
David Thomas Davies, Riley, Kan. Farmer.
Frank Andrew Dawley, Waldo, Kan. Farmer and stock-raiser.

*B. S. has been granted all graduates since 1877.

Daisy Day, M. S., Onaga, Kan. At home.
Flora (Day) Barnett, M. S., Manhattan, Kan. Housewife.
George Adam Dean, Manhattan, Kan. Assistant in entomology and graduate student, Kansas State Agricultural College.
Lillie Christena Dial, Cleburne, Kan. Teacher.
Lucy Ellis, Westmoreland, Kan. Teacher.
Victor Emrick, 998 East Taylor street, Portland, Ore. Passenger auditing clerk, Oregon Transportation and Navigation Company.
George Forsyth, Franklin, Ind. Sales agent.
Ernest Harrison Freeman, Chicago, Ill. Student Armour Institute.
Florence Eleanor (Fryhofer) Webster, Manhattan, Kan. Housewife.
George William Fryhofer, Colorado Springs, Colo. Lawyer.
Oscar Hugo Halstead, 218 South Sixth street, St. Joseph, Mo. Instructor in mathematics, Platt's Commercial College.
Hortensia (Harman) Patten, 7106 Lafayette avenue, Chicago, Ill. Housewife.
John Bright Harman, Valley Falls, Kan. Farmer.
Clarence V. Holsinger, Rosedale, Kan. Fruit-raiser.
Christian Andrick Johnson, Success, Kan. Farmer.
John James Johnson, 4478 Delmar avenue, St. Louis, Mo. Professor of physiology and director of physiologic laboratory, Barnes Medical College.
Fred. Ralph Jolly, Olathe, Kan. Newspaper reporter.
William Irving Joss, Kirksville, Mo. Student of osteopathy.
Maud Estella (Kennett) Darnell, Kelso, Wash. Housewife.
Myron Arthur Limbocker, Quenemo, Kan. Cashier in bank.
Samuel Alexander McDowell, Elkton, Colo. Clerk.
Laura Sarah (McKeen) Smith, Russell, Kan. Housewife.
Theo. Wattles Morse, M. S., Kansas City, Mo. Soliciting editor for *Live-stock Indicator*.
Oscar Albert Otten, Pierce Junction, Kan. Telegraph operator.
William Hackworth Painter. Died in 1901.
Charles Wesley Pape, M. S., Topeka, Kan. Box 190.
Ethel (Patten) Ames, New York city. Housewife.
John Vernon Patten, 7106 Lafayette avenue, Chicago, Ill. Manufacturer.
William H. Phipps, St. Joseph, Mo. Blue Valley Creamery Company.
Alice Julia (Quintard) Peck. Died in 1899.
Frederick Ellsworth Rader, Sitka, Alaska. Alaskan Experiment Station.
Ralph Waldo Rader, Fayetteville, Ark.
Ada Rice, Manhattan, Kan. Assistant in preparatory department, Kansas State Agricultural College.
Benjamin Franklin Simeon Royer, St. Joseph, Mo. Physician.
Charles Baxter Selby, Marion, Va. Lawyer.
Mabel Gertrude Selby, Argentine, Kan. Teacher.
Ernest P. Smith, Manhattan, Kan. Carpenter.
Frederick John Smith, Russell, Kan. Editor.
Kitty Myrtle (Smith) Wheeler, Manhattan, Kan. Housewife.
Marietta Smith, Denver, Colo. Student of nursing, homeopathic hospital.
William Henry Steuart, Winchester, Kan. Farmer.
Cora Idella (Stump) Chaffee, Lasita, Kan. Housewife.
Dora (Thompson) Winter, Omaha, Neb. Housewife.
Elvin Creveling Trembly, Comiskey, Kan. Farmer.
George Carpenter Wheeler, Manhattan, Kan. Herdsman for dairy husbandry department and graduate student, Kansas State Agricultural College.
Mary Elizabeth (Willard) Emrick, 998 East Taylor street, Portland, Ore. Housewife.
Olive Mabel (Wilson) Holsinger, Rosedale, Kan. Housewife.
Ora Gertrude Yenawine, Randall's Island, New York, N. Y. Instructor in sewing, New York House of Refuge.

1896.*

May Haines Bowen, Manhattan, Kan. Instructor in mathematics, Kansas State Agricultural College.
Con Morrison Buck, M. S., Fort Madison, Iowa. Civil engineer on Santa Fe railroad.
Margaret Isaphene (Carlton) Doane, College Park, Md. Housewife.
William Annesley Cavenaugh, Fort Sheridan, Ill. Lieutenant company D, Twentieth infantry.
William Arthur Coe, Coloma, Kan. Farmer.

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*B. S. has been granted all graduates since 1877.

Charlotte Mabel (Cotton) Smith, Wabaunsee, Kan. Housewife.
Ernest Brown Coulson, Sweetwater, Tex.
George Henry Dial, Cleburne, Kan. Teacher and farmer.
Charles Francis Doane, M. S., College Park, Md. Assistant in dairying and bacteriology, Maryland Agricultural College.
John Berthold Dorman, Albany, N. Y. Student Albany Normal College.
Bradford Dougherty, Kansas City, Kan. Merchant.
Charles Silar Evans, Manila, P. I. Hospital corps.
Robert Kilby Farrar, Axtell, Kan. Teacher.
George William Finley, Emporia, Kan. Student Kansas State Normal School.
Joanna Freeman. Died in 1897.
John Jacob Fryhofer, Joplin, Mo. Secretary of mining corporation.
Elmer George Gibson, Stockdale, Kan. Farmer.
George Clifton Hall, Morganville, Kan. Editor.
Alonzo Charles Havens, Dwight, Kan. Farmer.
Gertrude Julia (Havens) Norton, College Park, Md. Housewife.
Lawrence Wilbur Hayes, 1028 Kansas avenue, North Topeka, Kan. Commission merchant.
John Warren Holland, Manila, P. I. Assistant cashier, United States custom-house.
Henry George Johnson, 358 Marsfield street, Chicago, Ill. Student in dentistry.
Susan Effie (Johnson) Cooper, Success, Kan. Housewife.
Marian Elizabeth Jones, M. S., Manhattan, Kan. Assistant in domestic art department, Kansas State Agricultural College.
Thomas Lormar Jones, 1000 Walnut street, Kansas City, Mo. Piano-tuner.
Edward Clarence Joss, D. V. S., Fairview, Kan. Veterinarian.
Royal S. Kellogg, M. S., Washington, D. C. Bureau of forestry, United States department of agriculture.
Mark Kirkpatrick, McAlester, O. T. United States land surveyor.
Edith Lynette Lantz, Salida, Colo., box 95. Teacher.
Sue Long, Topeka, Kan. Newspaper reporter.
Charles W. Lyman, Salina, Kan. Commercial traveler.
Charles Dwin McCauley, 417 Madison street, Topeka, Kan. Draughtsman.
Charles Sumner Marty, Sun, Kan. Ranchman.
Elda Lenore (Keen) Moore, Manhattan, Kan. Housewife.
Arthur Houston Morgan, Hillside, Kan. Farmer.
Clara Verena Newell, Shubert, Neb. Teacher.
Ellen Elizabeth (Norton) Adams, Manhattan, Kan. Housewife.
John Bitting Smith Norton, College Park, Md. Professor of botany, Maryland Agricultural College.
Hattie A. (Paddleford) McFadden, Walsburg, Kan. Housewife.
Mary Kerilla (Painter) Rogers, Ashland, Kan. Housewife.
Elva Luthera (Palmer) Thackrey, 2832 Holly street, Kansas City, Mo. Housewife.
Inez Luella (Palmer) Barrows, Clifton, Kan. Housewife.
Fannie (Parkinson) Moyer, Ottawa, Kan. Housewife.
Archie Carpenter Peck, Francis, I. T. Manager of mill and cotton-gin.
Arthur Lewis Peter, M. D., 2109 West Thirty-fourth avenue, Denver, Colo. Physician.
Charles Edwin Pincomb, Lenexa, Kan. Stockman.
Mary Josephine Pincomb, Salt Lake City, Utah. Director of domestic science and art, University of Utah.
John Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Edgar Arthur Powell, Osage City, Kan. Farmer and stock-raiser.
Lisle Willits Pursel, Kansas City, Mo. Clerk.
Howard Newton Rhodes, Topeka, Kan. Traveling salesman for Jas. Kirk, Chicago.
Ambrose Elliott Ridenour, Manhattan, Kan. Foreman of foundry, Kansas State Agricultural College.
Mary Etta (Ridenour) Plowman, Jewell City, Kan. Housewife.
Isaac Archie Robertson, Lexington, Mo. Clerk and bookkeeper for Missouri Pacific railway.
Grace Anna Secrest, Akron, Ohio. Instructor in sewing, city schools.
Carl Snyder, Oskaloosa, Kan. Farmer.
Max Gilbert Spalding, Eureka, Kan. Teacher and farmer.
Orville Ashford Stingley, 1328 McGee street, Kansas City, Mo. Meat inspector, Armour's.
Sadie Stingley, Manhattan, Kan. At home.
Gertrude Ella Stump, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Miriam Esther Swingle, 116 High street, Peoria, Ill. Assistant in household economy, Bradley Polytechnic Institute.

---

* B. S. has been granted all graduates since 1877.

William Elwood Thackrey, Geneva, Neb. Manual training teacher, Indian service.
James Dunbar Trumbull, Manhattan, Kan. Clerk.
Frank Edwin Uhl, Gardner, Kan. Farmer, and graduate student Kansas State Agricultural College.
Edwin H. Webster, Manhattan, Kan. Assistant professor of dairying, Kansas State Agricultural College.

1897.*

Cora Atwell, R. F. D. No. 3, North Topeka, Kan. Teacher.
Roger William Bishoff, Eudora, Kan. Farmer.
Mary Frances Carnell, Denver, Colo. Milliner.
William Burns Chase, Hoyt, Kan. Hardware merchant.
Frank E. Cheadle, Erwin, Okla. Painter.
Robert Waitman Clothier, M. S., Cape Girardeau, Mo. Professor of chemistry and agriculture, Third District Normal School.
Maggie A. (Correll) Uhl, Gardner, Kan. Housewife.
Mabel Crump, 1233 Washington street, Kansas City, Mo. Stenographer.
Fred Volley Dial, Cleburne, Kan. Clerk.
Viola Grace Dille, Ottawa, Kan. Bookkeeper.
Samuel Dolby, 110 Virtner avenue, Lexington, Ky.
George Doll, Larned, Kan. Teacher and farmer.
Anna Phillipina (Engel) Blackman, Manhattan, Kan. Housewife.
Emma Finley, Manhattan, Kan. Teacher city schools.
Martha Fox, Topeka, Kan. Student of nursing, Christ's hospital.
Philip Fox, M. S., Hanover, N. H. Student Dartmouth College.
Ned Merrill Green, Fort Crook, Neb. Second lieutenant, Twenty-fifth infantry, United States army.
Mary Eliza Haulenbeck. Died in 1901.
Lewellyn Gaines Hepworth, Scranton, Kan. Insurance.
Ina Emma Holroyd, Manhattan, Kan. Assistant and graduate student, Kansas State Agricultural College.
Myrtle Hattie (Hood) Johnson, Success, Kan. Housewife.
Charles Henry Hoop, Manhattan, Kan. Mechanic.
Winifred Anna (Houghton) Buck, Fort Madison, Iowa. Housewife.
Bret Redmon Hull, Alta Vista, Kan. Lumber dealer.
Clay Berkey Ingman, Barnes, Kan. Farmer.
Gertrude May (Lyman) Hall, 2812 Thirteenth street, N. W., Washington, D. C. Housewife.
Frederick Hugo Meyer, Mount Vernon, S. Dak. Creamery company.
Valentine Maelzer, Morse, Idaho. Farmer and teacher.
Sherman Bodwell Newell, Zeandale, Kan. Teacher and farmer.
Oliver Ezra Noble, Hobart, Okla. Government surveyor.
Jesse Baker Norton, M. S., Washington, D. C. Scientific aid, bureau of plant industry, department of agriculture.
Mary Augusta Norton, St. Louis, Mo. Indexer in library, Shaw's Botanical Garden.
Bertha Olivia Olson, Manhattan, Kan. At home.
Hilda Sophia Olson, Manhattan, Kan. Teacher.
Russell John Peck, McFarland, Kan. Teacher.
William Oscar Peterson, Randolph, Kan. Farmer.
Eva Louise Philbrook, Logan, Kan. Teacher.
Rufus M. Philbrook, Woods, N. Dak. Teacher.
William Joseph Rhoades, Shockey, Kan. Ranchman and teacher.
Carl Rice, Ilagan, North Luzon. Government employee.
Thomas Meade Robertson, Coffeyville, Kan. Dentist.
Homer Joseph Robison, Topeka, Kan. Machinist.
Edward Shellenbaum, Randolph, Kan. Clerk in post-office.
Alice Myrtle Shofe, Manhattan, Kan. At home.
Charles Wesley Shull, Manhattan, Kan. Farmer.
Alfred Caleb Smith, 7503 Sunnyside avenue, Green Lake addition, Seattle, Wash. Electrical engineer.
Phœbe Jane Smith, Pueblo, Colo. Teacher city schools.
Wilhelmina Henrietta Spohr, Manhattan, Kan. Teacher city schools.
Charles Harrison Stokely, Burlingame, Ark.
John E. Trembly, Comiskey, Kan. Farmer.
Harriet Agnes Vandivert, Wichita, Kan. Teacher of domestic science, Fairmount College.

* B. S. has been granted all graduates since 1877.

John Minton Westgate, M. S., 6023 Ellis avenue, Chicago, Ill. Student University of Chicago.
Mark Wheeler, Fort Clark, Tex. First lieutenant, Fourth United States infantry.
Clare Annie (Wilson) Dutton, Mapleton, Kan. Housewife.

1898.*

Emory Sherwood Adams, Manila, P. I. Corporal company G, Second United States infantry.
Joshua William Adams, Cheyenne Wells, Colo. Rain Belt Experiment Station.
Samuel John Adams, Manhattan, Kan. General secretary of Kansas State Agricultural College Y. M. C. A.
Thomas Walter Allison, Florence, Kan. Farmer and fruit-grower.
William Anderson, Manhattan, Kan. Assistant in mathematics, Kansas State Agricultural College.
Olive Voiles, Forty-ninth street and Fourth avenue, New York city. Nurse, woman's hospital.
Jessie Geneva Bayless, Yates Center, Kan. At home.
Hope Brady, Manhattan, Kan. Teacher, city schools.
Robert Henry Brown, Manhattan, Kan. Assistant in music, Kansas State Agricultural College.
Earl Carver Butterfield, Washington, D. C. Bureau of forestry, United States department of agriculture.
John Alfred Conover, Kearney, Neb. Dairy farmer.
Minnie Laura Copeland, 356 Hermitage, avenue, Chicago, Ill. Trained nurse.
Lucy Maria (Cottrell) Pottorf, Riley, Kan. Housewife.
Anna Magdalena Dahl, Webber, Kan. Teacher.
Inga Josephine Dahl, Webber, Kan. At home.
Cassie Belle Dille, Kansas City, Kan. Stenographer.
Emma Phillipine Doll, Burdett, Kan. Teacher.
Cora Elizabeth (Ewalt) Brown, Manhattan, Kan. Housewife.
Guy Francis Farley, Melvern, Kan. Grain merchant.
Mary (Finley) Ridenour, Manhattan, Kan. Housewife.
Arthur Lorenzo Frowe, Wamego, Kan. Teacher.
William Logan Hall, M. S., 2812 Thirteenth street, N. W., Washington, D. C. Assistant in bureau of forestry, United States department of agriculture.
Anna Viola (Hanson) Higinbotham, Manhattan, Kan. Housewife.
Walter Eugene Hardy, 508 Century building, Kansas City, Mo. Traveling representative Central Lyceum Bureau.
James Madison Harvey, Junction City, Kan. Farmer.
Emmett Vivian Hoffman, Enterprise, Kan. Bookkeeper.
Guy Dudley Hulett, Kirksville, Mo. Student of osteopathy.
Bertha Emma Ingman, Barnes, Kan. At home.
Ary Cordelia Johnson, 4478 Delmar avenue, St. Louis, Mo. Stenographer.
Charles Percy King, Eldorado Springs, Mo. Lumberman.
Bessie May (Locke) Noble, Hobart, Okla. Housewife.
Olive Long. Died in 1902.
William Andrew McCullough, M. D., Linwood, Kan. Physician and proprietor of drug-store.
Inez Isadore (Manchester) Allison, Florence, Kan. Housewife.
Florence Adelia Martin. Died in 1901.
Henry Alba Martin, Admire, Kan. Creamery.
Alice Maude Melton, Manhattan, Kan. Clerk in director's office, Experiment Station.
George Gerkein Menke, Seattle, Wash.
Mary Frances Minis, Manhattan, Kan. Clerk county treasurer's office.
May Moore, Manhattan, Kan. Bookkeeper.
Harriet Grace Nichols, Liberal, Kan. At home.
Schuyler Nichols, M. D., Liberal, Kan. Physician.
Lucy Junie Parks, Manhattan, Kan. Teacher.
Ernest Byron Patten, Carthage, S. Dak. Miller and grain-dealer.
C. Jeanette Perry, Manhattan, Kan. Clerk in secretary's office and graduate student, Kansas State Agricultural College.
Emilie Matilda Pfuetze, Manhattan, Kan. Cashier in store.
John Martin Pierce, Alexander Valley, Cal. Fruit-grower.
Raymond Haines Pond, M. S., 410 East Liberty street, Ann Arbor, Mich. Student of botany, University of Michigan.
William Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Willis Thomas Pope, Doylestown, Pa. Horticulturist National Farm School.

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*B. S. has been granted all graduates since 1877.

Nora May (Reed) Pierce, Alexander Valley, Cal. Housewife.
Gertrude Elizabeth Rhodes, Manhattan, Kan. Teacher.
Henry William Rogler, Matfield Green, Kan. Farmer.
Ferdinand John Rumold, Dillon, Kan. Farmer.
Martin Wilbur Sanderson, Marysville, Kan. County surveyor.
Olive Maria Shelden, Manhattan, Kan. At home.
Edwin Lee Smith, Manhattan, Kan. Teacher and farmer.
Oliver Russell Smith, Socorro, N. M. Assistant professor of mathematics and engineering, New Mexico School of Mines.
Bertha Spohr, Peoria, Ill. Director domestic economy, Bradley Polytechnic Institute.
Andrew B. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.
Cora Thackery, Valentine, Neb. Teacher.
Harriet Emerson Thackrey, Valentine, Neb. Clerk in county treasurer's office.
Henry Marsden Thomas, 1209 Union avenue, Kansas City, Mo. Salesman Ferguson Implement Company.
Elsie Lucile Waters.
Fred Dorsey Waters.
Abner Davis Whipple, Marion, Ala. Instructor, Marion Military Academy.
Adelaide Francis Wilder, M. S., Manhattan, Kan. At home.
Josephine Hannah Wilder, M. S., Manhattan, Kan. Clerk.
Frank Yeoman, 501 and 502 Massachusetts building, Kansas City, Mo. Lawyer.
Frederick Zimmerman, Kirksville, Mo. Manager of dairy herd.

1899.*

Bonnie Frances Adams, Cheyenne Wells, Colo. Teacher.
Morrison Carpenter Adams, Cleburne, Kan. Teacher.
Melvia Fairetta Avery, Manhattan, Kan. Teacher.
Albert Edwin Blair, 517 Polk street, Topeka, Kan. Continental Creamery Company.
James Courtney Bolton, Paxico, Kan. Farmer.
Joseph Abbott Butterfield, Success, Kan. Carpenter.
Willit Ramson Correll, Overbrook, Kan.
Ernest Lerned Cottrell, Wabaunsee, Kan. Farmer.
Alfred Burton Dille, Edgerton, Kan. Farmer.
Francis Joseph Habiger, Bushton, Kan. Wheat-grower and stock-raiser.
John George Haney, Hays, Kan. Superintendent Fort Hays Branch Experiment Station.
John Andrew Harvey, Junction City, Kan. Farmer.
Grace Edna Hill, Cleburne, Kan. Teacher.
Hiram Adsit Holzer, Pittsburg, Kan. Draughtsman for Santa Fe railroad.
Charles Clifford Jackson, Westmoreland, Kan. Stock-raiser.
Fred Emanuel Johnson, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Harry Wallace Johnston, Wichita, Kan. C. R. I. & P. telegraph operator.
Lot Parker Keeler, Seattle, Wash. Carpenter.
John Martin Kessler, 1133 O street, Lincoln, Neb. Gardener and florist, and graduate student Kansas State Agricultural College.
Albert Thomas Kinsley, M. S., Manhattan, Kan. Assistant in veterinary science, Kansas State Agricultural College.
Frank Elmer LaShelle, Clay Center, Kan. Teacher and printer.
Christian Dagobert Lechner, Morganville, Kan. Carpenter.
Ross Long, 601 Kansas avenue, Topeka, Kan. Lawyer.
Louisa Mary (Maelzer) Haise, Russell, Kan. Housewife.
Kate Anna Manly, Manhattan, Kan. Teacher.
Claud Masters, Hillsdale, Kan. Druggist.
Robert Burtice Mitchell, Fort Dade, Port Tampa, Fla. Second lieutenant company E, Fortieth U. S. volunteers.
Jennie June (Needham) Carter, Lane, Kan. Housewife.
Roscoe Townley Nichols, 2438 Indiana avenue, Chicago, Ill. Student Northwestern University.
Fanny Gertrude Noyes, Wabaunsee, Kan. At home.
Harry Delphos Orr, 2529 Indiana avenue, Chicago, Ill. Student Northwestern University, and graduate student Kansas State Agricultural College.
George Washington Owens, Tuskegee, Ala. Professor of agriculture and dairying.
Carrie Vashti (Painter) Des Marias, Meade, Kan. Housewife.
Ella Emerson Peck, Lexington, Okla. Teacher.

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*B. S. has been granted all graduates since 1877.

Anna C. Pfuetze, Olathe, Kan. Teacher of household economy in institution for deaf and dumb.
Andrew Pottorf, Riley, Kan. Farmer.
Mary Bly (Pritner) Lockwood, 161 High street, Middletown, Conn. Housewife, and student Wesleyan University.
Otto Independence Purdy, El Reno, Okla. Associate editor *Daily American*.
Delmer William Randall, Manhattan, Kan. Mail carrier, rural route, and graduate student Kansas State Agricultural College.
William Harry Roberts, Perry, Okla. Principal of schools.
Frank Sessions Shelton, Cape Nome, Alaska. Bookkeeper.
Louisa Mary Spohr, Chicago, Ill. Student St. Luke's Training School for Nurses.
Annie Louisa Streeter, Milford, Kan. At home.
Nellie Towers, Manhattan, Kan. At home.
Otho Sprague True, Vera, Kan. Farmer.
James Otis Tulloss, Sedan, Kan. Clerk.
William Guy Tulloss, Rantoul, Kan. Farmer.
George Franklin Wagner, Enterprise, Kan. Farmer.
Mary Lana (Waugh) Smith, 7503 Sunnyside avenue, Green Lake addition, Seattle, Wash. Housewife and journalist.
Charles Bernard White, Monument, Colo. Farmer.
Nannie Elizabeth Williams, ——, Mo. Stenographer.
Alexander George Wilson. Died in 1902.
Frederick Otto Woestemeyer, Lebanon, Tenn. Student Cumberland University.

1900.*

Elizabeth Jane Agnew, Manhattan, Kan. Assistant in domestic science, Kansas State Agricultural College.
Elizabeth Edna (Asbury) Derr, Topeka, Kan. Housewife.
Effie Elizabeth (Bailey) Foltz, Zeandale, Kan. Housewife.
Alvah I. Bain, Marysville, Kan. Farmer.
Harry H. Bainer, R. F. D. No. 1, Pomona, Kan. Creamery man.
Charlotte Almira Berkey, Louisburg, Kan. Teacher.
John Harold Blachly, Manhattan, Kan. Mechanic.
Minerva Blachly, Manhattan, Kan. Bookkeeper in secretary's office, Kansas State Agricultural College.
Zina Leigh Bliss, Washington, D. C. Bureau of forestry, United States department of agriculture.
Fred Winchester Bobbitt, Linn Creek, Mo. Civil engineer.
Lillie Grace Bolton, Paxico, Kan. Graduate student Kansas State Agricultural College.
Prudence Dell Broquet, Greeley, Colo. Student Colorado State Normal School.
Nellie (Burtner) Sargent. Died in 1901.
Clarence Asa Chandler, Argentine, Kan. Teacher and fruit-grower.
Frederick Waldemar Christensen, Mariadahl, Kan. Farmer.
Ernest Mansel Cook, 1008 Mechanics street, Emporia, Kan. Student Kansas State Normal.
Charles McClain Correll, Manhattan, Kan. Teacher.
Jennie Maude Currie, 906 Madison street, Topeka, Kan. At home.
Harry Leroy Dern, Kingman, Kan. Teacher.
Homer Derr, Topeka, Kan. General offices Santa Fe railroad.
Mary Alberta (Dille) Hulett, Kirksville, Mo. Housewife.
Robert Edward Eastman, 224 Hazen street, Ithaca, N. Y. Student of agriculture, Cornell University.
Jennie Edelbute, Keats, Kan. At home.
Eugene Emrick, Pittsburg, Kan. Collector for L. B. Price & Co.
Josephine Finley, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Harry Verne Forest, Thayer, Kan. Draughtsman.
George Ogden Greene, Manhattan, Kan. Assistant in horticulture and graduate student, Kansas State Agricultural College.
Hermann Haffner, Junction City, Kan. Florist.
Gustaf William Hanson, 1225 East Murdock street, Wichita, Kan. Machinist.
James William Harner, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Daisy Gladys Hoffman, Chicago, Ill. Student.
Walter Fisk Lawry, 1416 Chemical bldg., St. Louis, Mo. Draftsman for Maule, Hanna & Co.
Amanda Culp McCarty, Mountain Grove, Mo. Instructor in music, Mountain Grove Academy.
N. Ollie McCurry, Milo, Kan. At home.

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George G. McDowell, Elkton, Colo. Miner.
Roland McKee. Blue Rapids, Kan. Farmer.
Nettie McLaren, Altoona, Kan. At home.
Charles Dudley Montgomery, Paloalto, Cal. Student Leland Stanford Jr. University.
Fred Byers Morlan. White Rock, Kan. Farmer.
Andrew Edward Oman, Winkler, Kan. Teacher.
Kate Paddock, Manhattan, Kan. Instructor in domestic art and graduate student, Kansas State Agricultural College.
Joseph Lloyd Pancake, Tully, Kan. Stock-raiser.
Albert William Parrack. Died in 1901.
Edith Perkins, box 138, South Pasadena, Cal. At home.
Elenore Perkins, box 138, South Pasadena, Cal. At home.
Paul du Chaillu Piersol, Manhattan, Kan. Mechanic.
Luther Eugene Potter, Grand Junction, Colo. Superintendent of farm at Indian school.
Clara Spilman, Manhattan, Kan. Teacher, and graduate student Kansas State Agricultural College.
Mabel Stewart, Neosho, Mo. Teacher.
Stella Stewart, Council Bluffs, Iowa. Teacher in institution for deaf.
Fayette Charles Sweet, Burlington, Kan. Farmer.
Cora Edith Swingle, New York city. Student Teacher's College.
Dean Brett Swingle, Washington, D. C. Scientific aid, U. S. department of agriculture.
Barton Thompson, Garrison, Kan. Graduate student Kansas State Agricultural College.
Laura Helen Trumbull, Manhattan, Kan. Teacher, and graduate student Kansas State Agricultural College.
Jessie May Wagner, Enterprise, Kan. At home.
Luther Watts Waldraven, Randolph, Kan. Farmer.
Kate Elizabeth Zimmerman, Santa Fe, N. M. Instructor in sewing, Presbyterian mission school.

1901.*

Delmer Akin, Manhattan, Kan. Student Kansas State University, and graduate student Kansas State Agricultural College.
Cyrus Norton Allison, Florence, Kan. Dental student.
Loua Adelle Blachly, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Harry S. Bourne, Delphos, Kan. Farmer.
Charles J. Burson, Niotaze, Kan. County surveyor.
Howard Frank Butterfield. Ackley, Iowa. Instructor in manual training school.
Edwin Charles Cook, Oakley, Kan. Farmer.
Ina Foote Cowles, Lawrence, Kan. Instructor in Haskell Institute.
Trena Dahl, Webber, Kan. At home.
Fannie Rachel Ellen Dale, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Herman August Dieball, Albuquerque, N. M. Insurance agent.
Edgar Willis Doane, Paloalto, Cal. Student Leland Stanford Jr. University.
Otto H. Elling, Tampa, Okla. Farmer.
Valentine Meacham Emmert, Blue Rapids, Kan. Farmer.
Rainey Faris, Sixth and Easton streets, Alton, Ill. Draftsman for Western Cartridge Company.
Harry Haines Fay, Wilsey, Kan. Farmer.
Fred Fockele, Le Roy, Kan. Cashier in bank.
Louisa Gerteis, Derby, Kan. Teacher.
Maud Hart, Elvaston, Ill. At home.
Fred Willis Haselwood, Paloalto, Cal. Student Leland Stanford Jr. University.
Minnie Howell, 1725 Topeka avenue, Topeka, Kan. Instructor in domestic science, industrial institute.
Edith Huntress, Manhattan, Kan. At home.
Louis Berten Jolley, Manhattan, Kan. Student Chicago Homeopathic Medical College.
Helen Knostman, Manhattan, Kan. Instructor, Kansas State Agricultural College.
Daniel Ladd, Manhattan, Kan. Carpenter.
Emma Elizabeth Lock, Manhattan, Kan. Teacher.
Harvey McCaslin, Paloalto, Cal. Student Leland Stanford Jr. University.
Madge Ruth McKeen, Manhattan, Kan. Instructor and graduate student, Kansas State Agricultural College.
John A. McKenzie, Oswego, Kan. Farmer.

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George Martinson, Paloalto, Cal. Student Leland Stanford Jr. University.
Walter E. Mathewson, Manhattan, Kan. Assistant in chemistry and graduate student, Kansas State Agricultural College.
Emma Maude Miller, Milford, Kan. Teacher.
Margaret Jane Minis, Manhattan, Kan. Assistant librarian and graduate student, Kansas State Agricultural College.
Clarence William Morgan, Phillipsburg, Kan. Teacher and farmer.
Eugene Lawrence Morgan, Phillipsburg, Kan. Teacher and farmer.
Ruth Atwill Mudge, Manhattan, Kan. Instructor and graduate student, Kansas State Agricultural College.
Jessie May Mustard, Manchester, Kan. Graduate student Kansas State Agricultural College.
Martha Nitcher, Manhattan, Kan. Assistant in office of farm department, Kansas State Agricultural College.
John H. Oesterhaus, Holton, Kan. Clerk.
Carrie Bell Oneel, Lowemont, Kan. At home.
Helena Maude Pincomb, Pittsburg, Kan. Instructor in domestic art in Pittsburg high school, and graduate student, Kansas State Agricultural College.
Bryant Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Leroy Rigg, Marvin, Kan. Farmer.
William Stephen Sargent, Casper, Wyo. Foreman of sheep ranch.
Maude (Sauble) Rogler, Matfield Green, Kan. Housewife.
Charles A. Scott, Washington, D. C. Assistant in bureau of forestry, United States department of agriculture.
Anna Louisa (Smith) Kinsley, Manhattan, Kan. Housewife.
Adelaide Strite, Ogden, Kan. Teacher.
Anna Odette Summers, Waterville, Kan.
Lucy Sweet, Santa Cruz, Cal. At home.
Perrin K. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.
Estella Mae Tharp, Arkansas City, Kan. Teacher.
Helen Castle True, Emporia, Kan. Student Kansas State Normal School.
Harry Castle Turner, Rock Creek, Kan. Teacher.
Florence Helen Vail, Manhattan, Kan. At home.
Mary Caroline Wagner, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Eleanor Mary White, Newton, Kan.
Katharena Winter, Manhattan, Kan. Clerk.
Lucie Joan Wyatt, Westmoreland, Kan. Teacher.
Henry Theador York. Died in 1902.

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SUMMARY.

The number of graduates up to 1902 is 815, of whom 309 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of bachelor of arts. Since 1877, all have received the degree of bachelor of science, after a four-year course in the sciences, with good English training.

Of the 506 men, 22 are deceased, and the remainder are reported in the following occupations:

Farmers and stock-raisers	98
Fruit-growers, nurserymen, and gardeners	13
Professors and instructors in colleges	36
Superintendents of agricultural experiment stations	5
Assistants in agricultural experiment stations and agricultural colleges	8
In United States department of agriculture	12
In United States government civil service	7
In military service	8
In postal service	11
County superintendent of public instruction	1
Superintendents and teachers in public schools	39
Teachers in Indian schools	4
Graduate students Kansas State Agricultural College	14
Students in other institutions	20
Physicians and students of medicine, druggists, and dentists	34
Lawyers	29
Ministers and secretaries of Y. M. C. A	12
Journalists	22
Architects and builders	10
Civil, electrical, mining and mechanical engineers	10
Mechanics	18
Manufacturers	7
Miners	5
Telephone and telegraph operators and managers	4
Officials and official clerks	4
Clerks and bookkeepers	19
Merchants	26
County and state officials	12
Bankers and cashiers	11
Commercial travelers	8
Creamery men	6
Agents	6
Other professional men	3
Unknown	14
Total	536
In two occupations	52
	484

Of the 309 women, 14 are deceased, and the remainder occupied as follows:

Housewives	114
Teachers in public schools	47
Teachers of domestic science and domestic art	22
Professors and instructors in colleges	7
Teachers of art and music	7
Physicians	2
Students in other institutions	5
Graduate students Kansas State Agricultural College	17
Instructors and assistants in agricultural colleges and experiment stations	8
Secretary of Kansas State Agricultural College	1
Librarians and assistant librarians	4
Nurses	7
Bookkeepers, stenographers, and clerks	15
Milliners and dressmakers	3
Journalists	4
At home	35
Unknown	5
Farmer	1
In United States department of agriculture	1
With opera company	1
Total	306
In two occupations	11
	295

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1903.

Kansas State Agricultural College.

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FORTIETH ANNUAL CATALOGUE

OF THE

Officers, Students and Graduates

OF THE

KANSAS STATE

Agricultural College

MANHATTAN,

1902-'03.

MANHATTAN, KANSAS,
1903.

ANDERSON (MAIN) HALL.

Terms and Vacations.

Fall Term, 1903, Thirteen Weeks.

Wednesday, September 16.—Examination for admission, at nine a. m.
Thursday, September 17.—College year begins.
Tuesday, September 29.—Short course in domestic science begins.
Saturday, October 31.—Mid-term examination.
Thursday, November 26.—Thanksgiving day vacation.
Thursday and Friday, December 17, 18.—Examination at close of term.

Winter Term, 1904, Twelve Weeks.

Monday, January 4.—Examination for admission, at nine a. m.
Tuesday, January 5.—Winter term begins.
Tuesday, January 5.—Short courses in agriculture and dairying begin.
Saturday, January 23.—Annual inter-society oratorical contest.
Saturday, February 13.—Mid-term examination.
Thursday and Friday, March 24, 25.—Examination at close of term.

Spring term, 1904, Eleven Weeks.

Monday, March 28.—Examination for admission, at nine a. m.
Tuesday, March 29.—Spring term begins.
Saturday, May 7.—Mid-term examination.
Tuesday and Wednesday, June 14, 15.—Examination at close of year.
June 12 to 16.—Exercises of commencement week.
Thursday, June 16, at ten a. m.—Commencement.
June 17 to September 21.—Summer vacation.

Fall Term, 1904.

Wednesday, September 21.—Examination for admission, at nine a. m.
Thursday, September 22.—College year begins.

Board of Regents.

HON. J. S. McDOWELL (1905),* *President*,
Smith Center, Smith county.

HON. C. E. FRIEND (1905), *Vice-president*,
Soldier, Jackson county.

HON. E. T. FAIRCHILD (1907), *Treasurer*,
Ellsworth, Ellsworth county.

HON. R. J. BROCK (1905), *Loan Commissioner*,
Manhattan, Riley county.

HON. J. W. BERRY (1907),
Jewell, Jewell county.

HON. J. O. TULLOSS (1907),
Sedan, Chautauqua county.

PRES. E. R. NICHOLS (*ex officio*), *Secretary*,
Manhattan, Riley county.

MISS LORENA E. CLEMONS, *Assistant Secretary*,
Manhattan.

*Term expires.

Board of Instruction.

FACULTY.

ERNEST R. NICHOLS, D. B. (Iowa State Normal School), A. M. (State University of Iowa),
President.

JOHN D. WALTERS, M. S. (Kansas State Agricultural College),
Professor of Industrial Art and Designing.

ALEXANDER B. BROWN, (Boston Music School), A. M. (Olivet),
Professor of Music.

JULIUS T. WILLARD, M. S. (Kansas State Agricultural College),
Professor of Chemistry.

EDWIN A. POPENOE, A. M. (Washburn),
Professor of Entomology and Zoology. Curator of the Museum.

BENJAMIN L. REMICK, Ph. M. (Cornell College),
Professor of Mathematics.

BENJAMIN F. EYER, B. S. (Armour Institute)
Professor of Physics and Electrical Engineering.

CHARLES E. GOODELL, A. M. (Franklin),
Professor of History and Economics.

HERBERT F. ROBERTS, A. B. (University of Kansas), M. S. (Kansas State Agricultural College),
Professor of Botany.

WILLIAM ARCH McKEEVER, A. M. (University of Kansas),
Professor of Philosophy.

WILFORD O. CLURE, B. O. (Drake University),
Professor of Oratory.

EDMUND S. McCORMICK, B. S. (Massachusetts Institute of Technology),
Professor of Mechanical Engineering, Superintendent of Shops.

DANIEL H. OTIS, M. S. (Kansas State Agricultural College),
Professor of Animal Husbandry.

[Miss EDITH A. McINTYRE, (Teachers' College),
Professor of Domestic Science.

NELSON S. MAYO, M. S. (Michigan Agricultural College), D. V. S. (Chicago Veterinary College),
Professor of Veterinary Science.

ALBERT DICKENS, M. S. (Kansas State Agricultural College),
Professor of Horticulture, Superintendent of Orchards and Gardens.

CLARK M. BRINK, A. M. (U. of R.), Ph. D. (University of City of New York),
Professor of English.

ANDREW S. ROWAN, Captain Nineteenth Infantry, U. S. A.,
Professor of Military Science.

EDWIN H. WEBSTER,[a] B. S. Ag. (Iowa State College), M. S. (Kansas State Agricultural College),
Professor of Dairying.

ALBERT M. TEN EYCK,[b] B. Agr. (Wisconsin),
Professor of Agriculture, Superintendent of Farm.

JOSHUA D. RICKMAN (I. T. U.),
Superintendent of Printing.

Miss MARIAN E. JONES, M. S. (Kansas State Agricultural College),
Superintendent of Domestic Art.

BENJAMIN S. McFARLAND, A. M. (Miami),
Principal Preparatory Department.

Mrs. HENRIETTA W. CALVIN, B. S. (Kansas State Agricultural College),
Librarian.

Mrs. EDITH N. CLURE, (Posse Gymnasium),
Director Physical Training.

Miss Lorena E. Clemons, B. S. (Kansas State Agricultural College),
Secretary.

Assistants.

JACOB LUND, M. S. (Kansas State Agricultural College),
Superintendent Heat and Power Department.

Miss JOSEPHINE C. HARPER, A. M. (Lindsborg),
Assistant Professor of Mathematics.

Miss ALICE RUPP (Indiana State Normal),
Assistant Professor of English.

GEORGE F. WEIDA, Ph. D. (Johns Hopkins),
Assistant Professor of Chemistry.

CLARENCE L. BARNES, D. V. M. (Cornell University),
Assistant Professor of Veterinary Science.

---

a. Till April 1, 1903.

b. Since December 1, 1902.

JOHN O. HAMILTON, B. S. (University of Chicago),
Assistant Professor of Physics.

WILLIAM L. HOUSE,
Foreman of Carpenter Shop.

Miss MARGARET J. MINIS, B. S. (Kansas State Agricultural College),
Assistant Librarian.

ROBERT H. BROWN, B. M. (Kansas Conservatory of Music), B. S. (Kansas State Agricultural College),
Assistant in Music.

WM. ANDERSON, B. S. (Kansas State Agricultural College),
Assistant in Mathematics.

Miss GERTRUDE BARNES,
Assistant Librarian.

WILLIAM BAXTER,
Foreman of Greenhouse.

WILL M. SAWDON,[c] B. S. (Purdue),
Assistant in Mechanics.

Miss ADA RICE, B. S. (Kansas State Agricultural College),
Assistant in English.

LOUIS WABNITZ,
Foreman Machine-shop.

ERNST C. GASSER,
Foreman Blacksmith Shop.

Miss INA E. HOLROYD, B. S. (Kansas State Agricultural College), (Kansas State Normal),
Assistant in Preparatory Department.

GEO. O. GREENE, M. S. (Kansas State Agricultural College),
Assistant in Horticulture.

Miss HETTY G. EVANS (Massachusetts Normal Art School),
Assistant in Drawing.

VERNON M. SHOESMITH, B. S. (Michigan Agricultural College),
Assistant in Agriculture.

Miss ELEANOR HARRIS, B. M. (Chicago College of Music),
Assistant in Music.

WALTER E. MATHEWSON, B. S. (Kansas State Agricultural College),
Assistant in Chemistry.

---

c. Till November 1, 1902.

AMBROSE E. RIDENOUR, B. S. (Kansas State Agricultural College),
Foreman in Foundry.

GEO. A. DEAN, B. S. (Kansas State Agricultural College),
Assistant in Entomology.

LESLIE F. PAULL, A. M. (Brown),
Assistant in Botany.

Miss EMMA J. SHORT,
Assistant in Preparatory Department.

Miss INA F. COWLES, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

Miss MAUDE M. COE, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

ROSCOE H. SHAW, B. S. (New Hampshire College of Agriculture and Mechanic Arts),
Assistant Chemist, Experiment Station.

THEO. H. SCHEFFER,[d] A. M. (Cornell University),
Assistant in Zoology.

CHARLES E. PAUL,[e] B. S. (Massachusetts Institute of Technology),
Assistant in Mechanical Engineering.

Other Officers.

Miss C. JEANETTE PERRY, B. S. (Kansas State Agricultural College),
Executive Clerk.

Miss MINERVA BLACHLY, B. S. (Kansas State Agricultural College),
Bookkeeper.

Miss HELEN KNOSTMAN, B. S. (Kansas State Agricultural College),
Clerk.

Miss ALICE M. MELTON, B. S. (Kansas State Agricultural College),
Clerk in Director's Office.

CHARLES HUGHES,
Secretary to President.

WILLIAM R. LEWIS,
Janitor.

d. Since December 1, 1902.

e. Since January 1, 1903.

Experiment Station.

Council.

President NICHOLS, Chairman.

Professor WILLARD, Chemist and Director.

Professor POPENOE, Entomologist.

Professor ROBERTS, Botanist.

Professor OTIS, Animal Husbandman.

Professor MAYO, Veterinarian.

Professor DICKENS, Horticulturist.

Professor WEBSTER,[1] Dairyman.

Professor TEN EYCK,[2] Agriculturist.

Assistants.

GEO. O. GREENE, Horticulture.
VERNON M. SHOESMITH, Agriculture.
GEO. A. DEAN, Entomology.
LESLIE F. PAULL, Botany.
CLARENCE L. BARNES, Veterinary Science.
ROSCOE H. SHAW, Chemistry.
MISS ALICE M. MELTON, Clerk in Director's Office.

[1] Until April 1, 1903.

[2] Since December 1, 1902.

Student Assistants.

RICHARD F. BOURNE, Veterinary.
MAY BOWEN, B. S., Mathematics.
ROBERT W. DE ARMOND, Horticulture.
CHARLES S. DEARBORN, Mechanics.
LOIS DEMING, Stenographer.
HOMER DERR, B. S., Preparatory.
GUSTAVE E. EASTMAN, Dairying.
CARL G. ELLING, Agriculture.
GEORGE W. GASSER, Veterinary.
JOHN GRIFFING, Dairying.
ALANSON L. HALLSTED, Horticulture.
EDWARD H. HODGSON, Agriculture.
HENRIETTA HOFER, B. S., Library.
EVAN E. KERNOHAN, Horticulture.
WILLIAM F. KERR, Agriculture.
ANNA SMITH KINSLEY, B. S., Chemistry.
GEORGE LOGAN, B. S., Veterinary.
ABNER H. McMANIS, Dairying.
MYRTLE MATHER, B. S., Preparatory.
MARSHALL H. MATTS, Dairying.
HATTIE M. NOYES, B. S., Preparatory.
GERTRUDE STUMP, B. S., Sewing.
FLORENCE VAIL, B. S., Chemistry and Preparatory.
HARRIET VANDIVERT, B. S., English.
HARRY N. VINALL, Horticulture.
ELLA WEEKS, Drawing.
INEZ WHEELER, Library.

DRILL GROUND.

The College Battalion.

The following is the roster of the commissioned and non-commissioned officers of the Kansas State Agricultural College corps of cadets for 1902–'03:

CAPT. A. S. ROWAN, Nineteenth United States Infantry,
Commandant of Cadets.

STAFF.

A. M. NASH..... Cadet Captain and Regimental Adjutant.
A. L. HALLSTED..... Cadet Captain and Regimental Quartermaster.
T. L. PITTMAN..... Second Lieutenant and Battalion Adjutant.
P. M. BIDDISON..... Second Lieutenant and Battalion Quartermaster.
P. A. COOLEY..... Battalion Sergeant-major.
L. C. FOSTER..... Battalion Quartermaster Sergeant.
V. L. CORY..... Color Sergeant.

INFANTRY, BY COMPANIES.

RANK.	Company A.	Company B.	Company C.	Company D.
Captain.....	O. P. Drake.....	R. F. Bourne.....	A. H. Sanderson..	D. V. Corbin.
First Lieutenant...	J. H. Whipple....	W. O. Gray.....	F. C. Romig.....	T. E. Dial.
Second Lieutenant,	E. C. Gardner....	J. G. Savage	O. B. Whipple....	G. Edgerton.
First Sergeant.....	A. N. H. Beeman,	C. P. Blachly.....	M. A. Pierce.....	C. J. Axtell.
Sergeants.....	J. L. Rodgers	R. S. Thompson..	W. P. Terrel.....	R. A. Seaton.
	E. E. Adamson...	B. R. Nelson	F. C. Balmer.....	E. Wheeler.
	J. C. Cunningham.....	C. F. Johnson....	C. H. White.....	C. B. Thummel.
	B. Hoffhines.....	C. W. Allison.....	F. Van Dorp	J. B. Thompson.
Corporals.....	J. C. Morrison ...	E. F. Brant.....	E. A. Cowles	J. Nygard.
	J. J. Peckham ...	M. Farrar.....	W. R. Ballard....	W. W. Stanfield.
	J. M. Taylor	A. L. Larson.....	G. L. Shirley.....	S. V. Smith.
	L. J. Munger.....	R. Meyer.....	C. M. Riker	R. Ramage.
	C. A. Gableman..	W. H. Cook	A. C. Ferris.....	H. A. Burt.
	H. F. Bergman...	R. Newland.....	H. Spears	W. P. Schroeder.
	C. W. Fryhofer...	.....	.....	C. B. Kirk.
Musicians.....	C. H. Popenoe ...	D. Walters.....	H. S. Davis.....	J. R. McMillan.
	.....	.....	I. H. Harris.....	G. A. Moffatt.

The College Band.

The following is the roll of the College band for 1902–'03:

A. B. BROWN, DIRECTOR.

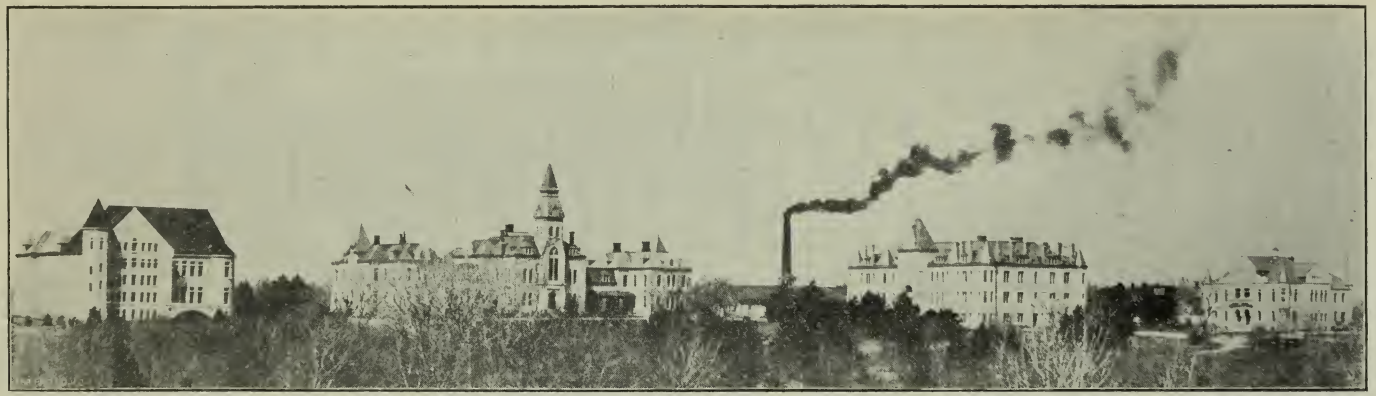
R. H. BROWN, Leader. A. H. JOHNSON, Drum Major.

Sergeants: A. C. WHITE, V. MATTHEWS, G. E. YERKES.

Corporals: G. A. GILKISON, A. J. RHODES, R. A. CARLE, H. MATTHEWS, W. B. NEAL.

NAME.	Instrument.	NAME.	Instrument.
Rhinehart, M.	Tuba.	Carle, R. A.	Cornet.
Shank, Geo.	"	Bixby, H. E.	"
Spuhler, H. A.	"	Copping, M. J.	"
Bender, L. B.	"	Collier, R. A.	"
Posey, W. M.	Tenor.	Elsas, M.	"
Paddock, J. D.	"	Kramer, W.	"
Joy, C. G.	"	Perry, C. F.	"
Skow, G. W.	"	Spohr, G. A.	"
Wolcott, H.	"	Wright, G. L.	"
Judd, H.	"	Brown, R. H.	"
Hancock, A. V.	"	Christensen, F. W.	"
Walters, F. H.	"	Hutchinson, G.	"
Wolfe, Geo.	Trombone.	Mitchell, B. L.	"
Rhodes, A. J.	"	Brown, A. D.	Clarinet.
Baird, R. O.	"	Bender, L. B.	"
Swift, C. B.	Baritone.	Fielding, L.	"
Legere, C.	"	Hubbard, H. B.	"
Reasoner, J. C.	Euphonium.	Ulrich, H.	"
Souders, Guy.	French horn.	Woodruff, F.	"
Conkey, R. W.	"	Sturgeon, W. J.	"
Neal, W. B.	Alto.	Foster, J. J.	"
McLaughlin, C. E.	"	Cudney, F. M.	"
Spencer, H.	"	Derr, H.	Piccolo.
Cudney, E. W.	"	Strong, H. W.	"
McCampbell, C. W.	"	Roberts, P. M.	"
Samson, E. D.	"	Miller, C. M.	"
White, A. C.	Cornet.	Merritt, J. E.	Tympani.
Matthews, V.	"	Paine, R. R.	"
Matthews, H.	"	Davis, W. D.	Drums.
Yerkes, G. E.	"	Briggs, Jno.	"
Gilkison, G. A.	"	Groome, H.	Cymbals.

Total, 62.



PARTIAL VIEW OF BUILDINGS.

THE COLLEGE CADET BAND.

History and Resources.

THE income of the College is derived from two sources—national and state. The original land-grant act was signed by President Lincoln July 2, 1862. This act appropriated 30,000 acres of land for each senator and representative in Congress. Under the provisions of this act this state was to receive 90,000 acres. The amount actually received was 82,313.52. This land was to be sold and the proceeds to be a permanent endowment, to be invested in bonds bearing not less than five per cent. interest, the income from these bonds to be used for the support of at least one college in each state. The second provision of section 5 reads as follows: "No portion of said fund, nor interest thereon shall be applied, directly or indirectly, under any pretense whatever to the purchase, erection, preservation or repair of any building or buildings." The amount of this endowment is $491,-181. This has been increasing until recently, on account of buying bonds below par. The income derived from this endowment since 1880 is given in the column headed "Income Fund," page 15.

Under this act, the state of Kansas, in 1863, established the State Agricultural College, by endowing Bluemont College, which had been erected two miles from Manhattan, under the auspices of the Methodist Episcopal church, but was presented to the state for the purpose named in the act of Congress.

In 1873 the College was reorganized upon a thoroughly industrial basis, with prominence given to agriculture and sciences related thereto; and in 1875 the furniture and apparatus of the College were moved to the farm of 223 acres, one mile from the city of Manhattan.

In March, 1887, Congress passsed the so-called "Hatch bill," which provided for the organization in each state of a station for agricultural experiments, and gave to each an annual appropriation of $15,000 for this purpose. See "Experiment Station," page 21.

On August 30, 1890, another act was passed by Congress, known as the "college-aid bill," or "Morrill bill." It provided for an annual appropriation, beginning with $15,000 for year ending June 30, 1890, with an annual increase for ten years of $1000 over the preceding year, the annual amount thereafter to each state to be $25,000. This money is "to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic sciences, with especial reference to their applications in the industries of life, and to the facilities for such instruction."

TABULATED FINANCIAL EXHIBIT.

Fiscal Year.	State Appropriations.									Inventory increase	Expense	National Appropriations.			Enrolment	Graduate
	Miscellaneous	Current expense	Water and coal	Regents, etc.	Repairs	Library	Equipment	Buildings	Total			Income fund	Morrill fund	Hatch fund		
1863-80								$45,645	$155,302	$36,009						56
1880-81	$17,979[1]			$1,251	$800		$1,950		4,001	3,316	$19,502	$24,766			267	8
1881-82				1,398		$1,000		15,000	17,398	19,784	27,914	17,622			312	9
1882-83				1,864		1,000		15,000	17,864	24,448	29,660	31,551			347	12
1883-84				1,415	500	500	500	7,500	10,415	12,295	34,844	32,638			395	17
1884-85	4,613[1]			1,637	500	500	500	15,000	18,137	37,105	42,646	32,213			402	14
1885-86				1,798	700		600	10,000	12,098	34,721	45,827	38,595			428	21
1886-87				1,733	1,400			4,100	7,233	12,910	38,788	32,253			481	21
1887-88	2,264[1]			2,047	1,000	1,000	4,700	8,817	17,564	16,597	35,768	32,331		$15,000	472	22
1888-89	3,000[2]			1,815	1,000	1,000	2,500		9,315	10,334	32,027	31,686		15,000	445	25
1889-90			$1,425	300	1,900	1,000	2,900	1,000	8,525	8,732	29,892	34,131		15,000	514	27
1890-91			1,649	3,410	1,200	1,000	2,950		10,209	6,857	43,330	28,765	$31,000	15,000	593	52
1891-92	3,000[2]		325	1,698	3,050	250		4,000	12,323	15,219	50,722	29,654	17,000	15,000	584	35
1892-93			500	456	1,500	250			2,706	18,381	57,012	30,187	18,000	15,000	587	39
1893-94			484	37	1,000			74,000	75,521	7,846	54,989	29,761	19,000	15,000	555	39
1894-95			190	116				2,000	2,295	79,736	51,156	29,390	20,000	15,000	572	57
1895-96	1,625[3]		1,995	1,927	4,300	999	5,057	3,480	17,453	13,933	51,928	26,988	21,000	15,000	647	66
1896-97		$10,000	2,084	1,907	1,300	1,000	550	1,300	18,141	157	51,500	28,669	22,000	15,000	734	55
1897-98	629[4]	5,000	2,000	1,656	1,700	1,000	3,200	16,599	31,584	16,171	56,516	27,677	23,000	15,000	803	69
1898-99		5.000	2,000	1,700	1,000		1,050		10,750	2,993	63,704	29,549	24,000	15,000	870	53
1899-1900	7,360[5]	10,000	2,250	1,850	3,000	1,500	22,240	43,500	91,700	45,582	56,956	25,160	25,000	15,000	1,094	58
1900-01	18,993[6]	10,000	2,250	1,850	3,000	1,500			37,593	3,380	65,822	30,910	25,000	15,000	1,321	60
1901-02	4,130[7]	25,000	2,800	1,850	3,000	1,500	9,100	75,000	122,380	79,917	73,467	25,371	25,000	15,000	1,396	52
1902-03	4,130[7]	30,000	2,800	1,850	3,000	1,500	8,500	10,000	61,780				25,000	15,000	1,574	....
1903-04	15,830[8]	40,000	5,000	2,050	5,000	1,500	18,500	55,000	142,880				25,000	15,000		....
1904-05	5,330[9]	50,000	3,500	2,050	5,000	1,500	18,500	5,000	90,880					15,000		....
Totals									$1,026,047							

[1] To restore endowment (not included in totals). [2] Water mains and sewer.
[3] $1500 cadet uniforms, $125 sewers. [4] Rent, President's house.
[5] $2000 Farmers' Institutes, $1800 salary State Veterinarian, $3000 sewer, $500 rent President's house.
[6] $2000 Farmers' Institutes, $1800 salary State Veterinarian, $300 rent President's house, $14,893 deficiency June 30, 1899.
[7] $2000 Farmers' Institutes, $1800 salary State Veterinarian, $330 rent President's house.
[8] $2000 Farmers' Institutes, $2000 salary State Veterinarian, $330 rent President's house, $10,500 purchase of land, $1000 contingent fund.
[9] $2000 Farmers' Institutes, $2000 salary State Veterinarian, $330 rent President's house $1000 contingent fund.

Grounds and Buildings.

THE College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing toward the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard and sample gardens attached, the whole being surrounded by durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape-gardener, while well-graveled drives and good walks lead to the various buildings. All these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation rooms are excellently lighted and ventilated, and are heated by steam or hot water. A complete system of sewerage has been provided. The College owns 430 acres of land, valued at $50,000, and leases 110 acres additional. The greater portion of these 540 acres is devoted to experiments.

ANDERSON (Main) HALL is 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices of the President and Secretary, cloak-rooms, studies, chapel, post-office, and offices and classrooms of the departments of drawing, music, mathematics, oratory, English, philosophy, preparatory, and printing. Cost, $79,000. The value of the equipment and apparatus in this building is as follows: Executive, $5323; drawing, $2395; music, $2039; mathematics, $1598; oratory, $45; English, $60; preparatory, $45; printing, $4717.

MECHANICS HALL contains the following rooms, forming a connected structure: Wood shop, two stories, 40x103 feet. The upper floor contains office and drafting-room for the department of mechanical engineering. The lower floor contains benches for 220 students, and complete set of wood-working machinery and tools. Machine-shop, 40x80 feet; blacksmith shop, 40x50 feet; iron foundry, 40x50 feet; brass foundry, 16x30 feet; pipe-fitting room, 18x50 feet; engineering laboratory, 35x40 feet; power room, 35x40 feet; boiler room, 40x75 feet. Cost of buildings, $23,125; value of equipment, $27,828.

GYMNASIUM, one story, 35x110 and 46x75 feet of floor space, is in form of a cross. It contains a drill-room 43x71 feet, a large class-

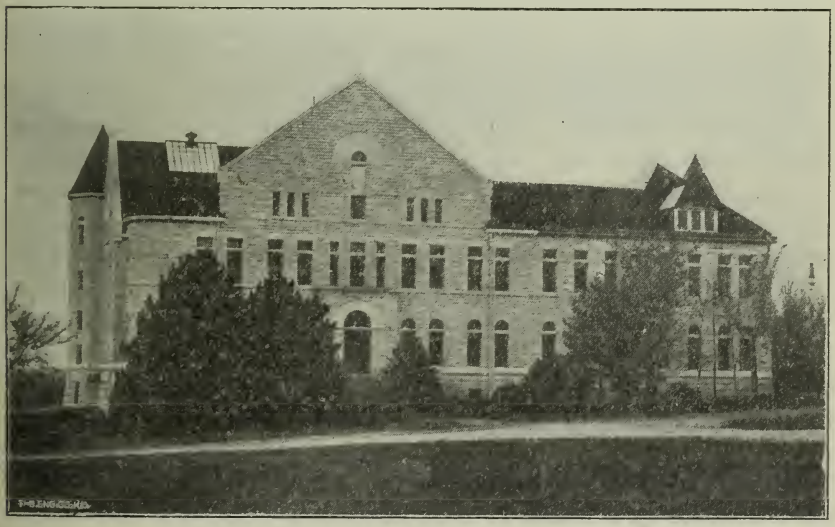
room, cloak-room, dressing-room, toilet-room, ten bath-rooms, and two offices, Cost, $10,000. Value of equipment, $515.

Horticultural Hall, 32x80 feet, is a one-story building with cellar, having museum, classroom, and storage, with greenhouses attached. Cost of building was $4200; value of equipment and apparatus is $19,046.

Horticultural Laboratory contains offices, workroom, five propagating houses, and insectary. Cost, $5000.

Armory, 46x95 feet, is a two-story building. This building which has served many purposes, is now fitted below for an armory and drill-room and office of military department; also dressing-room and bath-room for the various athletic teams; and above are classrooms, laboratories, offices and museum of the veterinary department. Cost of building, $11,250. Value of equipment and apparatus: Military, $1697; veterinary, $5638.

Fairchild (Library) Hall is 100x140 feet, three and four stories high. This building provides permanent quarters for the library, with ample reading-rooms and offices, classrooms and laboratories for the departments of botany, entomology and zoölogy, and bacteriology, a classroom and office for the department of history and economics, general museum, and rooms for the various literary societies. Cost of building $67,750. Value of equipment and apparatus: Botany, $14,169; history and economics, $157; entomology and zoology, $8519.



FAIRCHILD (LIBRARY) HALL.

KEDZIE (DOMESTIC SCIENCE) HALL is 84x70 feet, two stories and basement. The first floor contains office, lecture-rooms and laboratories for the department of domestic science. The second floor is occupied by the department of domestic art. Cost of building, $15,000. Value of apparatus: Domestic science, $1318; domestic art, $572.

AGRICULTURAL HALL, 90x95 feet, with its two stories and basement, contains offices, classrooms and laboratories for the departments of agriculture, animal husbandry, and dairying. It is well equipped with modern improved machinery for butter- and cheese-making, milk-testing, etc. All the workrooms are lined with opalite tiling. Cost, $25,000; equipment and apparatus, $33,051.

PHYSICAL SCIENCE HALL is 96x166 feet, and its two stories and basement contain offices, classrooms and laboratories for the departments of chemistry, and physics and electrical engineering. It is heated both by direct and indirect radiation, thus insuring perfect ventilation. Cost of building, $70,000. Value of equipment: Chemistry, $8232; physics and electrical engineering, $8177.

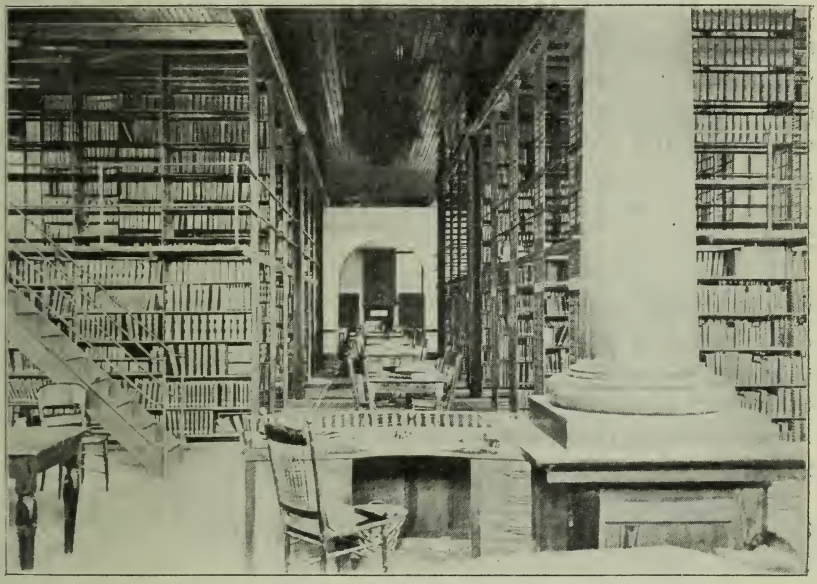
THE FARM BARN is a double but connected stone structure, 50x75 feet and 48x96 feet, with an addition of sheds and experimental pens 40x50 feet. The south wing, 48x96 feet, is the stock-judging room, having a seating capacity of 350. A basement, underlies the entire structure. Cost, $10,831.

THE DAIRY BARN, 40x175 feet, is fitted up with modern swinging stalls for eighty head of cows, arranged in two rows, with driveway between. Cost of building and equipment, $4000.

THE HORTICUTURAL BARN is a stone building, containing storeroom, granary, and stables for several horses. Cost, $1000.

THE COLLEGE LIBRARY is one of the most important supplements to classroom instruction. It consists of 25,700 bound volumes and about 18,000 pamphlets. These books are mainly kept in a general library, but many volumes of technical character are withdrawn and held in departmental libraries. All of the books are indexed in card catalogues, which show their author, title, and to a large degree the details of their contents; also their location. Students are allowed free access to the shelves, a privilege and a source of culture that are given in perhaps no other library of its size in the country. Students may draw books for home use under simple and liberal regulations The library is open daily, except on legal holidays, from seven A. M. to six P. M., and the librarian or an assistant is in constant attendance during this period to assist those who use the books. By all these means the library is utilized to the fullest extent and is of inestimable value.

The College subscribes for the leading literary, scientific and agricultural journals, while the principal daily and weekly papers of Kansas, and many from other states, are received in exchange for the College publications. All these are kept on file for the use of students and Faculty. The College has been designated as the depository of United States public documents for the fifth congressional district of Kansas, and 3000 volumes have already been received on this account. Value of books and equipment, $55,125.



LIBRARY BOOK ROOM.

Objects.

This College now accomplishes the objects of its endowment in several ways:

First, It gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second, It teaches the sciences applied to the various industries of farm, shop, and home. Chemistry, physics, botany, entomology, zoölogy and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants and animals themselves illustrates and fixes the daily lessons. At the same time lessons in agriculture, horticulture, engineering and household economy show the application of science; and all are enforced by actual experiment.

Third, It trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm and household departments is made a part of the general education for usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.

Fourth, It seeks to extend the influence of knowledge in practical affairs beyond the College itself. For this purpose, farmers' institutes have been organized in nearly every county of the state, in which from one to three members of the Faculty share with the people in lectures, essays and discussions upon topics of most interest to farmers and their families. These institutes have brought the College into direct sympathy with the people and their work, so as to make possible a general dissemination of the truths presented. Members of the Faculty are also prominently connected with the state associations for the promotion of agriculture, horticulture, the natural sciences, and education in general. Correspondence as to farmers' institutes or any questions of practical interest in agriculture or related sciences is desired.

The *Industrialist*, published by the College, edited by the Faculty, and furnished to each student, gives a wide circulation to matters of interest in the College.

THE EXPERIMENT STATION.

The Agricultural Experiment Station of the College is organized and maintained under the provisions of what is known as the "Hatch act," and is officially designated as "An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July 2, 1862, and the acts supplementary thereto." This was enacted "in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and practice of agricultural science." The law specifies in detail "that it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses for forage-plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The Experiment Station, so established, is an important feature of the College. The President of the College, with the professors of agriculture, botany, chemistry, animal husbandry, horticulture, entomology, veterinary science, and dairying, form the Experiment Station Council, by authority of which experiments are undertaken, and carried on in the several departments under the supervision of the professors. The heads of certain important departments of instruction in the College are thus also in charge of the several departments of investigation of the Station, and to a certain extent assistants serve in both capacities. The Experiment Station, therefore, is not definitely localized at the institution, but its work and property are more or less woven in with that of the College. The expenses of the Experiment Station work are separately accounted for, however, and its property is listed in separate inventories. While this arrangement involves some difficulties, it also possesses many advantages — advantages which are mutual. The College work profits by having the investigations of the Sta-

tion going on alongside. The Station profits in that it thus obtains, without charge, the use of the College farm, buildings, heat, light, various collections, museums, and in some cases apparatus. The expenses of the Experiment Station are met by an appropriation by Congress of $15,000 per annum. The aims of the Station may be said to be twofold—those which lead to immediate returns, and those the object of which can be reached only after a series of years. Experiments of the greatest value are often of the latter kind, but if the work of the Station were limited to such, the public would feel that nothing is being accomplished. It is the intention of the Station force to make all of its experiments practical, in the sense that they lead to results which, indirectly if not directly, benefit the agricultural interests of the country.

The Hatch act provides "that bulletins or reports of progress shall be published at least once in three months, one copy of which shall be sent to each newspaper in the state or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the Station will permit." The publications of the Station include annual reports, bulletins, and press bulletins.

Since 1889 the annual reports contain no details of experiments, but simply outlines of the work of the year in general and in the several departments, and including the financial statements required by law. These annual reports, not being of general interest, therefore, are printed in but small numbers, and sent to libraries and officials only, except on special request.

The bulletins are the means of communicating the results of the Station work directly to the farmers. They are issued in the quantities judged necessary to meet the demand. All investigations are described in them when completed, and they are sent to all on our mailing lists. During the history of the Station the number issued has averaged about eight per annum.

The press bulletins are issued in limited numbers and sent to the papers, to certain state and county officers, and to a considerable number of public or semi-public institutions. They are short, readable, and popular, but at the same time accurate, articles on subjects of current interest, and embodying observations and experiments of members of the Station staff. Extra copies of some of them are printed for use in answering inquiries.

Persons desiring to receive the Station bulletins are requested to address Agricultural Experiment Station, Manhattan, Kan. General correspondence in reference to the Station should be sent in the same

way, but inquiries concerning any special line of investigation should be sent to the head of the department in charge of such work.

Fort Hays Branch Station.— Congress, in an act approved March 27, 1900, ceded the Fort Hays military reservation, containing 7597.93 acres, to the state of Kansas, on condition that it would establish and maintain there branches of the State Normal School and of the Experiment Station. The state legislature accepted the reservation in an act approved February 7, 1901, and designated a division of the land between the Normal School and the Agricultural College, by which the latter obtained about 3500 acres, including the parts most desirable for agricultural purposes. Situated west of the ninety-ninth meridian, the station will occupy a field entirely different climatically from that of any other station in the country, and the results obtained there ought to benefit a large region extending even beyond the boundaries of the state. Experiments will be tried on a large scale in making tests of varieties and methods of culture, with special reference to the needs of regions with deficient rainfall. Experiments will be made to determine the feeding value of the drought-resisting crops produced. This branch station is supported by a state appropriation. The funds appropriated by Congress cannot be used for the support of substations.

INDUSTRIAL TRAINING.

This institution is preëminently industrial in its aims, methods, and tendencies. While the pure sciences, mathematics and other studies are rigorously taught, there is constantly present a practical atmosphere which incites the student to an application of the principles taught, and thus lends interest and value to the work. In nearly every term of the four-year course the student gives one hour per day to industrial training of one kind or another. This awakens and deepens sympathy with industry and toil, impresses the student with the essential dignity of labor, thus educating toward the industries instead of away from them, and lays a good foundation for a life-work in industrial and technical lines. Even should students not all return to the farm, the shop, or to housewifery, the wider knowledge afforded them and the broader sympathies engendered cannot but redound to their good, and to the advantage of society at large and the industrial classes in particular.

Throughout the first year young men take their industrial in the shops. They thus get a familiarity with tools and methods which enables them to do the wood- and ironwork commonly needed on the farm, and which is useful to all everywhere. The young women take sewing during the first year, and a certain amount of cooking practice.

The utility of this needs no argument. After the first year there are differences in the industrial requirements corresponding to differences in the several courses of study. In the domestic science course the various lines of household art constitute almost the entire industrial work, floriculture being given one term. In the mechanical engineering course shop work in one or another of its various kinds is required every term. In the agriculture course the industrials include practical instruction in the fields, orchards, gardens, and dairy, and in feeding. The general science course offers more latitude in choice of industrials after the first year. Young women may take sewing, cooking, printing, floriculture, or music. Young men may have woodwork, ironwork, dairying, farming, gardening, fruit-growing, or printing. The availability of these industrials depends somewhat on the season in some cases, so that not all are open each term. In addition to the above, a limited number of students are allowed typewriting as the industrial, upon recommendation of the head of a department having a machine.

The labor of students during assigned industrial time is not paid for, as its object is educational, and the student receives full value in the training afforded. In all the instruction in industrial lines special attention is given to making the courses systematic and progressive Students desiring to give extra attention to such work are allowed every opportunity that the departments can afford. Many students acquire sufficient proficiency to be able to turn their skill to a financial advantage during the latter terms of their courses, and all who apply themselves with any diligence obtain a training that cannot fail to be of great benefit to them in after-life. The work of the several industrials will be found described in detail under the individual headings.

EXTENDED COURSE.

Considering the entrance requirements of the institution, the four-year course of study is brief. Where practicable, students are advised to extend the course to five years. For students desiring to do this, additional work will be arranged in departments in which they may desire to specialize. Work done in the extended course may receive special mention on the diploma and be counted against requirements for the second degree.

SPECIAL COURSES.

Persons of suitable age and advancement, who desire to pursue such branches of study as are most directly related to agriculture or other industries, may select such studies, under the advice of the Faculty.

GRADUATE COURSES.

Arrangements can be made for advanced study in the several departments at any time, and outlines of courses will be furnished on application. The electives of the extended course are open to graduates, and special opportunities will be given for investigation and research. Every facility for advancement in the several arts taught at the College will be afforded such students, though they are not required to pursue industrial training while in these courses.

DEGREES.

The degree of bachelor of science is conferred upon students who complete the full course of four years and sustain all the examinations. This degree entitles the holder to credit for studies pursued in any application for state teachers' certificate. (See Laws of 1893.)

The degree of master of science will be conferred in course upon graduates of the College who have received eighteen credits in an approved graduate course, each credit being equivalent to a full study pursued for three months.

Courses will be approved which are in line with any one of the regular undergraduate courses, and include at least six credits in the biological or the physical sciences, or mathematics, and at least six credits in technical or industrial branches.

The principal line of study shall be designated as the major, and another line as the minor study. As nearly as may be, one-third of the time is to be given to the minor and two-thirds to the major study, including in the latter such scientific, mathematical or technical branches as contribute directly to it. The minor study must fill a logical place in the scheme, so that the work as a whole may possess unity.

Applications for graduate study shall be passed upon by the committee on graduate courses and referred by them to the Faculty for action. If approved by the Faculty, the candidate shall obtain an assignment at the beginning of each term for the studies intended to be pursued during the ensuing term. At the close of each term, examinations shall be given in all branches, and the candidate shall be reported as "passed" or "not passed."

Applications for entrance upon graduate study and for changes in major or minor subjects must be presented to the committee on graduate courses within the first week of a College term.

Non-resident candidates will be required to send to the professors in charge of the departments of their major and minor subjects a full and complete report at the middle and end of each term of the work accomplished within that period. Failure to comply with this re-

quirement will cause the candidate to be dropped from the roll of graduate students, to be reinstated only upon approval of the Faculty. At the end of each term, at the option of the instructors, and at a time and place to be designated by them, an examination may be given to non-resident candidates in the major and minor subjects.

Upon the completion of the required work, and by the 15th day of May of the year in which the degree is desired, each candidate shall present to the committee on graduate courses, typewritten and in duplicate, a satisfactory thesis involving original work along the line of his major subject. Thereupon a special examining committee of three shall be appointed from the Faculty, of whom one member shall represent the major subject and another the minor, who shall examine the candidate orally on the subject-matter of his thesis, and report the result of such examination to the Faculty. Upon receipt of the report of this committee, the Faculty will take action concerning the recommendation of the candidate for the degree.

The subject of the thesis must be presented to the committee on graduate courses for approval by the 1st day of January preceding the commencement at which the degree is desired.

Outlines of direction for study and research in various arts and sciences, with special adaptation to the wants and opportunities of individual applicants, will be furnished, at request, to all graduates; and professors in charge will gladly aid by correspondence in any researches undertaken.

The degree of master of science may be conferred upon the graduates of other colleges of like grade with our own, provided the applicant shall first satisfy the Faculty of his proficiency in the industrial studies distinctive of this institution, on the following conditions:

1. The applicant for the master's degree must be a graduate of at least three years' standing, and a resident of Kansas.

2. His graduate study shall have been in line with that required of graduates of this College, as published in our catalogue.

3. He must make application for the degree on or before the 1st day of January preceding the granting of the same. The application must be accompanied with a statement of his course of study, the work upon which the claim for the degree is based, and the subject selected for his thesis.

4. By April 1, an abstract of the thesis must be submitted to the Faculty.

5. Before May 15, the applicant shall present himself for examination. The examination shall be thorough and extensive, and shall be conducted by a special committee of the Faculty.

COURSES OF STUDY.

With a view to providing for the wants of the various classes of students, the following courses of study are offered:

1. Four-year courses, each leading to the degree of bachelor of science: (*a*) General science; (*b*) agriculture; (*c*) domestic science; (*d*) mechanical engineering; (*e*) electrical engineering.

2. Short courses in (*a*) dairying, (*b*) domestic science, (*c*) agriculture.

3. Apprentice courses in the shops, printing-office, and dairy.

Full explanations of the several courses, and of the studies included in them, will be found under the proper headings, and a general view of the four-year courses is given on the pages following.

All the preparatory subjects and nearly all the studies of the first and second years are taught each term, so that students may enter at any term. Students can complete nearly all the work of the first two years by attendance during winter terms only.

MAIN ENTRANCE TO COLLEGE GROUNDS.

ALL COURSES.

FALL TERM.	Algebra III.	5
	English Classics	5
	Elementary Botany	5
	Field-work	2½
	Hygiene	1
	Object Drawing	2½
	Woodwork or *Sewing I*	5
	Military Drill	5
	or *Calisthenics*	2½
WINTER TERM.	Geometry I.	5
	English Structure	5
	Agriculture or Cooking	5
	Elementary Psychology	1
	Geometrical Drawing	2½
	Foundry or *Sewing II.*	5
	Military Drill	5
	or *Calisthenics*	2½
SPRING TERM.	Geometry II.	5
	Rhetoric I	5
	Elementary Physics	5
	Laboratory	2½
	Elementary Projection	2½
	Blacksmithing I or *Sewing III.*	5
	Military Drill	5
	or *Calisthenics*	2½

Music is optional throughout the course.

FOUR-YEAR COURSES.

This and the three following pages give a general view of the four-year courses of study. The first year is the same for all students, excepting that the young men take military drill, agriculture, and shop work, while the young women take calisthenics, cooking, and sewing.

Figures following studies show class hours per week. Subjects in *italic type* require no study outside of class. Military drill is optional for young men of the third and fourth years. There is an elective in each of the last four terms of the general science course. These electives are chosen under the direction of the Faculty. In each case, the electives during the senior year are expected to be in the same line as nearly as possible. The following list is announced, and others will be provided as demanded, in so far as the teaching force available will permit:

FALL TERM.	WINTER TERM.	SPRING TERM.
Differential Calculus.	Integral Calculus.	Differential Equations.
Domestic Science I.	Domestic Science II.	Domestic Science III.
Animal Nutrition.	Agricultural Chemistry.	Stock Feeding.
Dairying.	Breeds of Stock.	Agricultural Physics.
Veterinary Science I.	Veterinary Science II.	Animal Breeding.
Horticulture.	Forestry.	Vegetable-gardening.
German.	German.	German.
Chemistry.	Chemistry.	Chemistry.
Entomology.	Entomology.	Entomology.
Botany.	Botany.	Botany.
Zoology.	Zoology.	Zoology.
History of Education and School Law.	Philosophy of Education.	Methods and Management.

For outline of instruction, see page 42 *et seq.*

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	Chemistry..... 5	Chemistry..... 5	Chemistry..... 5	Chemistry..... 5	Chemistry..... 5
	Laboratory..... 5	*Laboratory*..... 5	*Laboratory*..... 5	*Laboratory*..... 5	*Laboratory*..... 5
	Dairying..... 5	Trigonometry..... 5	Trigonometry..... 5	Trigonometry..... 5	Trigonometry..... 5
	Laboratory..... 10	Entomology..... 5	Horticulture..... 5	Projection Drawing..... 5	Projection Drawing..... 5
	Horticulture..... 5	*Laboratory*..... 2½	*Industrial*..... 5	Oratory I..... 2½	Oratory I..... 2½
	Library Lectures..... 1	Library Lectures..... 1	Library Lectures..... 1	Library Lectures..... 1	Library Lectures..... 1
	Oratory I..... 2½	*Color* and *Design*..... 5	*Military Drill*..... 5	*Blacksmithing II*..... 5	*Blacksmithing II*..... 5
	Military Drill..... 5	*Calisthenics*..... 2½	or *Calisthenics*..... 2½	*Military Drill*..... 5	*Military Drill*..... 5
WINTER TERM.	Organic Chemistry..... 3	Organic Chemistry..... 3	Organic Chemistry..... 3	Oratory II..... 2½	Oratory II..... 2½
	Chemistry of Metals..... 2	Chemistry of Metals..... 2	Chemistry of Metals..... 2	Chemistry of Metals..... 2½	Chemistry of Metals..... 2½
	Laboratory..... 5	*Laboratory*..... 5	*Laboratory*..... 5	*Laboratory*..... 5	*Laboratory*..... 5
	Physiology..... 5	Home Architecture..... 5	Higher Algebra..... 5	Higher Algebra..... 5	Higher Algebra..... 5
	Laboratory..... 2½	Oratory I..... 2½	Oratory I..... 2½	Kinematics of Machinery 5	Kinematics of Machinery.. 5
	Library Lectures..... 1	Library Lectures..... 1	Library Lectures..... 1	Library Lectures..... 1	Library Lectures..... 1
	Oratory II..... 2½	Dressmaking..... 5	Projection Drawing..... 5	*Projection Drawing*..... 5	*Projection Drawing*..... 5
	Breeds of Live Stock.... 5	*Laboratory*..... 5	*Industrial*..... 5	*Machine-shop I*..... 5	*Machine-shop I*..... 5
	Stock Judging..... 5	*Calisthenics*..... 2½	*Military Drill*..... 5	*Military Drill*..... 5	*Military Drill*..... 5
	Horticulture..... 5		or *Calisthenics*..... 2½		
	Military Drill..... 5				
SPRING TERM.	Analytical Chemistry.... 2½	Analytical Chemistry..... 2½	Analytical Chemistry..... 2½	Analytical Chemistry.... 2½	Analytical Chemistry..... 2½
	Laboratory..... 7½	*Laboratory*..... 7½	*Laboratory*..... 7½	*Laboratory*..... 7½	*Laboratory*..... 7½
	Entomology..... 5	Horticulture..... 5	Entomology..... 5	Analytical Geometry.... 5	Analytical Geometry..... 5
	Laboratory..... 2½	Oratory II..... 2½	*Laboratory*..... 2½	Descriptive Geometry... 5	Descriptive Geometry..... 5
	Trigonometry..... 5	Physiology..... 5	Oratory II..... 2½	Mechanics..... 2½	Mechanics..... 2½
	Crop Production..... 5	*Laboratory*..... 2½	Physiology..... 5	Shop Lectures..... 2½	Shop Lectures..... 2½
	Grain Judging..... 2½	*Calisthenics*..... 2½	*Laboratory*..... 2½	*Pattern-making*..... 5	*Pattern-making*..... 5
	Military Drill..... 5		*Surveying*..... 2½	*Military Drill*..... 5	*Military Drill*..... 5
			Military Drill..... 5		
			or *Calisthenics*..... 2½		

Music is optional throughout the course.

For outline of instruction, see page 42 *et seq.*

THIRD YEAR. COURSES OF STUDY—Continued.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	General History I..... 5 Rhetoric II ..... 5 Animal Nutrition..... 5 Hygiene of Farm Animals..... 2½ Farm Architecture ..... 2½ Oratory III ..... 1 *Agricultural Mechanics* 5 *Horticulture*..... 5	General History I..... 5 Rhetoric II ..... 5 Human Nutrition..... 5 Domestic Science I ..... 2 *Laboratory*..... 5 Oratory III ..... 1 *Laundering* 5	General History I..... 5 Rhetoric II..... 5 Human Nutrition..... 5 Zoology ..... 5 *Laboratory*..... 5 Oratory III ..... 1 *Industrial*..... 5	General History I..... 5 Differential Calculus.... 5 Physics ..... 5 *Laboratory*..... 5 Power Transmission..... 3 Oratory III..... 1 *Mechanical Drawing I*.. 2½ *Machine-shop II* 5	General History I..... 5 Differential Calculus..... 5 Physics..... 5 *Laboratory*..... 5 *Mechanical Drawing I*... 2½ Oratory III ..... 1 *Machine-shop II*..... 5
WINTER TERM.	General History II..... 5 Agricultural Chemistry.. 5 *Laboratory*..... 5 Forestry..... 5 Zoology ..... 5 *Laboratory*..... 5 Oratory III 1	General History II ..... 5 Geology ..... 5 Home Nursing..... 5 Domestic Science II..... 2 *Laboratory*..... 5 Oratory III ..... 1 *Floriculture*..... 5	General History II..... 5 Geology ..... 5 Logic..... 5 Perspective and Sketching..... 2½ Oratory III ..... 1 *Industrial*..... 5	General History II..... 5 Integral Calculus..... 5 Rhetoric II..... 5 Physics..... 2½ *Laboratory*..... 2½ Valve Gears..... 2½ Oratory III ..... 1 *Mechanical Drawing II*, 5 *Machine-shop III*..... 5	General History II..... 5 Integral Calculus..... 5 Rhetoric II..... 5 Physics..... 2½ *Laboratory*..... 2½ Oratory III ..... 1 Theory of Electricity..... 2½ *Laboratory*..... 2½ *Mechanical Drawing II*.. 5 *Machine-shop III*..... 2½
SPRING TERM.	Civics ..... 5 Geology..... 5 Vegetable-gardening .... 5 Stock Feeding..... 5 Oratory III..... 1 *Surveying*..... 2½ *Agriculture*..... 5	Civics ..... 5 Zoology ..... 5 *Laboratory*..... 5 Domestic Science III..... 2 *Laboratory*..... 5 American Literature..... 5 Oratory III 1	Civics ..... 5 Bacteriology..... 2 *Laboratory*..... 5 American History..... 5 Elective..... 5 Oratory III ..... 1 *Industrial*..... 5	Civics..... 5 English Literature ..... 5 Differential Equations .. 5 Steam-boilers..... 2½ Graphic Statics..... 2½ Oratory III ..... 1 *Mechanical Drawing III*..... 5 *Engines and Boilers*.... 5	Civics ..... 5 English Literature ..... 5 Differential Equations.... 5 Theory of Electricity..... 5 *Laboratory*..... 5 Oratory III ..... 1 *Mechanical Drawing III*..... 5 *Engines and Boilers* 5

Music is optional throughout the course.

For outline of instruction, see page 42 *et seq.*

FOURTH YEAR. COURSES OF STUDY—Concluded.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	Physics I..... 5 *Laboratory*..... 5 Veterinary Science I .... 5 Bacteriology..... 2 *Laboratory*..... 5 Farm Management ..... 5 Oratory IV..... 1 *Agriculture* 5	Physics I..... 5 *Laboratory*..... 5 Economic Principles ..... 5 Home Sanitation..... 5 Bacteriology..... 2 *Laboratory*. .... 5 Oratory IV..... 1	Physics I..... 5 *Laboratory*..... 5 Economic Principles ..... 5 Elective ..... 5 Oratory IV..... 1 *Industrial*..... 5	Dynamo and Motor..... 5 *Laboratory*..... 2½ Applied Mechanics I..... 5 Thermodynamics I ..... 5 Oratory IV..... 1 *Machine Design I*..... 5 *Eng. Laboratory I*..... 2½ *Machine-shop IV* 5	Direct-current Machines .. 5 *Laboratory*..... 5 Applied Mechanics I ..... 5 Steam Engineering ..... 5 Oratory IV..... 1 *Machine-shop IV*..... 5
WINTER TERM.	Physics II..... 5 *Laboratory*..... 5 Economic Principles.... 5 Plant Morphology..... 5 *Laboratory*..... 5 Veterinary Science II ... 5 Oratory IV..... 1	Physics II..... 5 *Laboratory*.... ..... 5 English Literature I ..... 5 Plant Morphology..... 5 *Laboratory*..... 5 Therapeutic Cookery..... 2 *Laboratory*..... 5 Oratory IV. 1	Physics II..... 5 *Laboratory*..... 5 English Literature I ..... 5 Plant Morphology..... 5 *Laboratory*..... 5 Elective..... 5 Oratory IV..... 1	Economic Principles.... 5 Applied Mechanics II... 5 Thermodynamics II..... 5 *Eng. Laboratory II*..... 5 *Machine Design II* ..... 5 *Electrical Laboratory*.. 2½ Oratory IV ..... 1 *Machine-shop V* 2½	Economic Principles ..... 5 Direct-current Machines .. 5 *Laboratory*..... 5 Applied Mechanics II..... 5 *Eng. Laboratory I*..... 2½ Dynamo Design..... . 5 Oratory IV..... 1 *Machine-shop V*..... 2½
SPRING TERM.	English Literature..... 5 Animal Breeding ..... 5 Plant Diseases and Breeding..... 5 *Laboratory*..... 2½ Agricultural Physics.... 5 Oratory IV..... 1 Thesis.	English Literature II..... 5 Psychology .... 5 Household Economics..... 5 American History ..... 5 Oratory IV..... 1 Thesis.	English Literature II ..... 5 Psychology ..... 5 Elective ..... 5 *Object Drawing* or..... 5 *Industrial*..... 5 Oratory IV..... 1 Thesis.	Hydraulics..... 5 Thermodynamics III.... 5 *Eng. Laboratory III*... 5 *Engineering Design* ... 5 *Surveying*. ..... 2½ Oratory IV..... 1 Thesis.	Hydraulics..... 5 Alternating-current Machines..... 5 *Laboratory*..... 5 Power Stations ..... 5 *Eng. Laboratory IV* ..... 5 *Surveying*..... 2½ Oratory IV..... 1 Thesis.

Music is optional throughout the course.

For outline of instruction, see page 42 *et seq.*

Agriculture Course.

The leading feature of the four-year agriculture course is the training offered in methods of farm production. Instruction is given in tillage, crop-production, stock-feeding and breeding, dairying, farm management, orcharding, small-fruit culture, and gardening. Insect life is considered in its relations to the farm, orchard, and garden, including a study of beneficial and injurious insects, with practical methods of combating the latter; and the laws of disease and health are studied, with the causes of diseases of farm animals and methods of avoiding and combating them. Work is required on the farm, and in the orchards and gardens, which will familiarize the student with the best method of conducting operations in these lines; and taken with this work is a study of the results secured by the College in crop-production, fruit-raising, gardening, and feeding for beef, milk, and pork. Three terms of work are given in the carpenter and blacksmith shops, that the student may learn to handle tools and be able to make the common repairs needed on the farm.

Closely connected with agriculture are the sciences upon which successful farm practices are based. Bacteriology is taught, that the student may understand the conditions necessary for promoting the growth of bacteria which add to the fertility of the soil and those which improve the quality of dairy products; and the conditions necessary to prevent the growth of bacteria which exhaust the soil, cause losses in manures, injure dairy products, and bring disease. The laws of plant growth are taught in botany, that the farmer may through their aid grow larger and better crops. An understanding of the laws of physics enables the farmer to store moisture and to reduce the loss of water from the soil by evaporation, so that he can produce crops in dry years. A knowledge of chemistry applied to farm work secures richer soil, better yields, cheaper and greater gain in feeding, and better quality of farm products. The fertility of our new lands has been produced by forces which have been at work for countless ages. A knowledge of the workings of these forces, as taught in geology, helps the farmer to save the fertility of his fields until used for crops and to render available the immense food stores locked up in the soil.

A farmer should be an influential citizen as well as a skilful producer. For this reason, in the agriculture course instruction is given in literature and language, political and economic science, oratory, mathematics, drawing, and music. Such training enables the farmer to take part and become an influential factor in social and public work. Young men securing an education such as is afforded in this course do not leave the farm, but become enthusiastic and successful workers, competent either to manage farms of their own or to superintend farms for others.

AGRICULTURAL HALL.

Agriculture Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Algebra III	5	67
English Classics	5	60
Elementary Botany	5	47
Field-work	2½	47
Hygiene	1	87
Object Drawing	2½	58
Woodwork	5	68
Military Drill	5	74

WINTER TERM:

Geometry I	5	68
English Structure	5	60
Agriculture	5	43
Elementary Psychology	1	80
Geometrical Drawing	2½	58
Foundry	5	69
Military Drill	5	74

SPRING TERM:

Geometry II	5	68
Rhetoric I	5	60
Elementary Physics	5	82
Laboratory	2½	82
Elementary Projection	2½	58
Blacksmithing I	5	69
Military Drill	5	74

Second Year.

FALL TERM:

Chemistry	5	50
Laboratory	5	50
Dairying	5	53
Laboratory	10	54
Horticulture	5	64
Library Lectures	1	66
Oratory I	2½	78
Military Drill	5	74

WINTER TERM:

Organic Chemistry	3	50
Chemistry of Metals	2	50
Laboratory	5	50
Physiology	5	89
Laboratory	2½	89
Library Lectures	1	66
Oratory II	2½	79
Breeds of Live Stock	5	40
Stock Judging	5	46
Horticulture	5	64
Military Drill	5	74

SPRING TERM:

Analytical Chemistry	2½	50
Laboratory	7½	50
Entomology	5	61
Laboratory	2½	61
Trigonometry	5	68
Crop Production	5	43
Grain Judging	2½	43
Military Drill	5	74

Third Year.

FALL TERM:

General History I	5	63
Rhetoric II	5	61
Animal Nutrition	5	52
Hygiene of Farm Animals	2½	89
Farm Architecture	2½	59
Oratory III	1	79
Agricultural Mechanics	5	70
Horticulture	5	65

WINTER TERM:

General History II	5	63
Agricultural Chemistry	5	52
Laboratory	5	52
Forestry	5	64
Zoology	5	62
Laboratory	5	62
Oratory III	1	79

SPRING TERM:

Civics	5	63
Geology	5	63
Vegetable-gardening	5	64
Stock Feeding	5	46
Oratory III	1	79
Surveying	2½	68
Agriculture	5	46

Fourth Year.

FALL TERM:

Physics I	5	83
Laboratory	5	83
Veterinary Science I	5	89
Bacteriology	2	89
Laboratory	5	89
Farm Management	5	43
Oratory IV	1	79
Agriculture	5	46

WINTER TERM:

Physics II	5	83
Laboratory	5	83
Economic Principles	5	63
Plant Morphology	5	48
Laboratory	5	48
Veterinary Science II	5	89
Oratory IV	1	79

SPRING TERM:

English Literature	5	61
Animal Breeding	5	46
Plant Diseases and Breeding	5	48
Laboratory	2½	48
Agricultural Physics	5	44
Oratory IV	1	79
Thesis	–	–

Domestic Science Course.

The aim of the domestic science course is both specific and general. Technically it is an application of the sciences of bacteriology to the study of home sanitation and hygiene, of physiology and chemistry to the composition of foods and their effect, of physics as applied to heating and lighting. These sciences necessarily, therefore, underlie the successful and intelligent conduct of the home, whether it be large or small, and must be included in any well-arranged course of domestic science. In the kitchen laboratory a standard system of measurement is taught, and constant emphasis is placed upon neatness, accuracy and economy in the handling of the material and utensils. The instruction in domestic art includes all the various kinds of hand sewing, the making of plain garments, and a complete system of dressmaking. Thus, while the course is based upon studies of a thoroughly scientific nature, the industrial features characteristic of the College are made highly practical and are continued throughout the course.

While the domestic science course emphasizes, primarily, the practical and material side of life, it does not stop here. To the end that well-rounded culture may be secured, studies are offered in this course in English, history, economics, psychology, and oratory. The young women are constantly reminded that life is not all drudgery; that technical knowledge and scientific skill, even, fail to include the full meaning of education in its highest sense. They are taught that any training that fails to develop, harmoniously, body, mind, and spirit, is inadequate and incomplete. They are brought face to face with ideals as well as with actualities; and are made to see that, while skilful labor is the crowning dignity of life, grace, refinement and self-poise are the highest ingredients of true service.

COOKING LABORATORY.

Domestic Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Algebra III	5	67
English Classics	5	60
Elementary Botany	5	47
Field-work	2½	47
Hygiene	1	56
Object Drawing	2½	58
Sewing I	5	54
Calisthenics	2½	80

WINTER TERM:

Geometry I	5	68
English Structure	5	60
Elementary Cooking	5	56
Elementary Psychology	1	80
Geometrical Drawing	2½	58
Sewing II	5	45
Calisthenics	2½	80

SPRING TERM:

Geometry II	5	68
Rhetoric I	5	60
Elementary Physics	5	82
Laboratory	2½	82
Elementary Projection	2½	58
Sewing III	5	54
Calisthenics	2½	80

Second Year.

FALL TERM:

Chemistry	5	50
Laboratory	5	50
Trigonometry	5	68
Entomology	5	61
Laboratory	2½	61
Library Lectures	1	66
Color and *Design*	5	57
Calisthenics	2½	80

WINTER TERM:

Organic Chemistry	3	50
Chemistry of Metals	2	50
Laboratory	5	50
Home Architecture	5	59
Oratory I	2½	78
Library Lectures	1	66
Dressmaking	5	54
Laboratory	5	54
Calisthenics	2½	80

SPRING TERM:

Analytical Chemistry	2½	50
Laboratory	7½	50
Horticulture	5	64
Oratory II	2½	79
Physiology	5	89
Laboratory	2½	89
Calisthenics	2½	80

Third Year.

FALL TERM:

General History I	5	63
Rhetoric II	5	61
Human Nutrition	5	52
Domestic Science I	2	56
Laboratory	5	56
Oratory III	1	79
Laundering	5	56

WINTER TERM:

General History II	5	63
Geology	5	63
Home Nursing	5	56
Domestic Science II	2	56
Laboratory	5	56
Oratory III	1	79
Floriculture	5	64

SPRING TERM:

Civics	5	63
Zoology	5	62
Laboratory	5	62
Domestic Science III	2	56
Laboratory	5	56
American Literature	5	64
Oratory III	1	79

Fourth Year.

FALL TERM:

Physics I	5	83
Laboratory	5	83
Economic Principles	5	63
Home Sanitation	5	56
Bacteriology	2	89
Laboratory	5	89
Oratory IV	1	79

WINTER TERM:

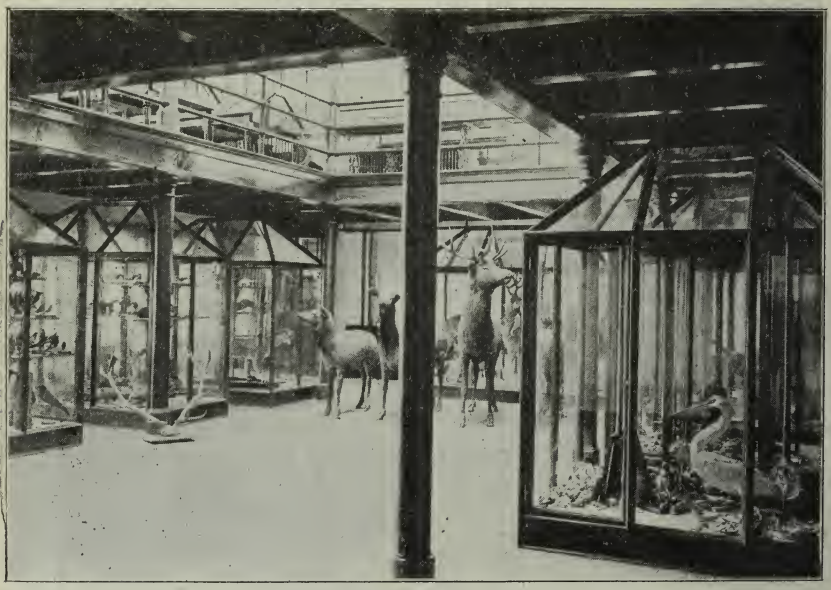
Physics II	5	83
Laboratory	5	83
English Literature I	5	61
Plant Morphology	5	48
Laboratory	5	48
Therapeutic Cookery	2	56
Laboratory	5	56
Oratory IV	1	79

SPRING TERM:

English Literature II	5	61
Psychology	5	80
Household Economics	5	56
American History	5	64
Oratory IV	1	79
Thesis	–	—

General Science Course.

This course is designed to meet the wants of those who seek to obtain a sound and liberal education through the study of the mathematical, physical and natural sciences, English language, and history. It is well adapted to the student who has not yet decided upon his life-work, or who wishes to make this a foundation for further study. It is based on the principle of "a general knowledge of all things before a special knowledge of a few." It will be well worth one's time to take this course before beginning the work of a technical or professional course. The industrial work is a feature of this course, as of all others, and after the first year it is largely elective. This gives ample opportunity to specialize along any line of work, should the student desire. The electives continuing through the four terms gives opportunity for some special lines, as follows: Young men may take analytical geometry, differential and integral calculus, differential equations, with the engineering students, and young women may take the three terms in domestic science with the third-year women of the domestic science course. Work in other departments may be elected, as: Agriculture, chemistry, physics, horticulture and entomology, veterinary science, and German. In each case, the electives for the last three terms are expected to be in the same line as nearly as possible. Other electives will be provided as demanded, as far as the teaching force available will permit. Music is optional throughout the four years, and young women are allowed to take it as an industrial after the first year, by permission of the Faculty.



FIRST FLOOR OF MUSEUM.

General Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

Fall Term:		
Algebra III	5	67
English Classics	5	60
Elementary Botany	5	47
Field-work	2½	47
Hygiene	1	87
Object Drawing	2½	58
Woodwork	5	68
or *Sewing I*	5	54
Military Drill	5	74
or *Calisthenics*	2½	80
Winter Term:		
Geometry I	5	68
English Structure	5	60
Agriculture	5	43
or Elementary Cooking	5	56
Elementary Psychology	1	80
Geometrical Drawing	2½	58
Foundry	5	69
or *Sewing II*	5	54
Military Drill	5	74
or *Calisthenics*	2½	80
Spring Term:		
Geometry II	5	68
Rhetoric I	5	60
Elementary Physics	5	82
Laboratory	2½	82
Elementary Projection	2½	58
Blacksmithing I	5	69
or *Sewing III*	5	54
Military Drill	5	74
or *Calisthenics*	2½	80

Second Year.

Fall Term:		
Chemistry	5	50
Laboratory	5	50
Trigonometry	5	68
Horticulture	5	64
Industrial	5	23
Library Lectures	1	66
Military Drill	5	74
or *Calisthenics*	2½	80
Winter Term:		
Organic Chemistry	3	50
Chemistry of Metals	2	50
Laboratory	5	50
Higher Algebra	5	68
Oratory I	2½	78
Library Lectures	1	66
Projection Drawing	5	58
Industrial	5	23
Military Drill	5	74
or *Calisthenics*	2½	80
Spring Term:		
Analytical Chemistry	2½	50
Laboratory	7½	50
Entomology	5	61
Laboratory	2½	61
Oratory II	2½	79
Physiology	5	89
Laboratory	2½	89
Surveying	2½	68
Military Drill	5	74
or *Calisthenics*	2½	80

Third Year.

Fall Term:		
General History I	5	63
Rhetoric II	5	61
Human Nutrition	5	52
Zoölogy	5	62
Laboratory	5	62
Oratory III	1	79
Industrial	5	23
Winter Term:		
General History II	5	63
Geology	5	63
Logic	5	80
Perspective and Sketching	2½	58
Oratory III	1	79
Industrial	5	23
Spring Term:		
Civics	5	63
Bacteriology	2	89
Laboratory	5	89
American History	5	64
Elective	5	28
Oratory III	1	79
Industrial	5	23

Fourth Year.

Fall Term:		
Physics I	5	83
Laboratory	5	83
Economic Principles	5	63
Elective	5	28
Oratory IV	1	79
Industrial	5	23
Winter Term:		
Physics II	5	83
Laboratory	5	83
English Literature I.	5	61
Plant Morphology	5	48
Laboratory	5	48
Elective	5	28
Oratory IV	1	79
Spring Term:		
English Literature II	5	61
Psychology	5	80
Elective	5	28
Oratory IV	1	79
Object Drawing	5	59
or *Industrial*	5	23
Thesis	–	—

Mechanical Engineering Course.

This course offers four years' training in mechanical engineering subjects, and its object is to fit young men for responsible positions in that profession. It prepares for the successful management of machinery and manufacturing establishments, the designing, building and erection of machinery, superintendence of construction, etc. Though the work is largely technical, general studies of a broadening character are not excluded. The course includes instruction by text-book, lecture, laboratory, and workshop practice, and is especially based on mathematics, pure and applied mechanics, physics, chemistry, machine design, structural design, and steam engineering.

The course of study has been laid out with the aim of securing a judicious mixture of theory and practice, such as will not only give the student the technical skill required for engineering operations, but also a broad grasp of the fundamental principles of his profession. The advantages of combining a practical application of principles with theoretical instruction at the time these principles are being impressed by classroom work is well known. The shop work, being purely educational in its character, is so arranged that each student can make as rapid advancement as possible. Instruction is given by skilled workmen, and the work carried on is of a practical character, being, in fact, the building of lathes, engines, drills and machinery for the market and the department. In all shop practice the students work from blue-prints, thus learning to read drawings readily and supplementing the work of the drawing department.

Based upon the fundamental principle that laboratory and shop work, combined with technical training, constitute one of the most important features of engineering education, the course on the opposite page is offered.

MACHINE SHOP.

Mechanical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Algebra III	5	67
English Classics	5	60
Elementary Botany	5	47
Field-work	2½	47
Hygiene	1	87
Object Drawing	2½	58
Woodwork	5	68
Military Drill	5	74

WINTER TERM:

Geometry I	5	68
English Structure	5	60
Agriculture	5	43
Elementary Psychology	1	80
Geometrical Drawing	2½	58
Foundry	5	69
Military Drill	5	74

SPRING TERM:

Geometry II	5	68
Rhetoric I	5	60
Elementary Physics	5	82
Laboratory	2½	82
Elementary Projection	2½	58
Blacksmithing I	5	69
Military Drill	5	74

Second Year.

FALL TERM:

Chemistry	5	50
Laboratory	5	50
Trigonometry	5	68
Projection Drawing	5	58
Oratory I	2½	78
Library Lectures	1	66
Blacksmithing II	5	69
Military Drill	5	74

WINTER TERM:

Oratory II	2½	79
Chemistry of Metals	2½	50
Laboratory	5	50
Higher Algebra	5	68
Kinematics of Machinery	5	69
Library Lectures	1	66
Projection Drawing	5	58
Machine-shop I	5	69
Military Drill	5	74

SPRING TERM:

Analytical Chemistry	2½	50
Laboratory	7½	50
Analytical Geometry	5	68
Descriptive Geometry	5	58
Mechanics	2½	69
Shop Lectures	2½	69
Pattern-making	5	70
Military Drill	5	74

Third Year.

FALL TERM:

General History I	5	63
Differential Calculus	5	68
Physics	5	82
Laboratory	5	82
Power Transmission	3	70
Oratory III	1	79
Mechanical Drawing I	2½	70
Machine-shop II	5	70

WINTER TERM:

General History II	5	63
Integral Calculus	5	68
Rhetoric II	5	61
Physics	2½	82
Laboratory	2½	82
Valve Gears	2½	70
Oratory III	1	79
Mechanical Drawing II	5	70
Machine-shop III	5	70

SPRING TERM:

Civics	5	63
English Literature	5	61
Differential Equations	5	68
Steam boilers	2½	70
Graphic Statics	2½	70
Oratory III	1	79
Mechanical Drawing III	5	70
Engines and Boilers	5	70

Fourth Year.

FALL TERM:

Dynamos and Motors	5	84
Laboratory	2½	84
Applied Mechanics I	5	70
Thermodynamics I	5	70
Machine Design I	5	71
Oratory IV	1	79
Engineering Laboratory I	2½	71
Machine-shop IV	5	71

WINTER TERM:

Economic Principles	5	63
Applied Mechanics II	5	71
Thermodynamics II	5	71
Engin'ring Laboratory II	5	71
Machine Design II	5	71
Oratory IV	1	79
Electrical Laboratory	2½	84
Machine-shop V	2½	71

SPRING TERM:

Hydraulics	5	71
Thermodynamics III	5	71
Engin'ing Laboratory III	5	71
Engineering Design	5	71
Oratory IV	1	79
Surveying	2½	68
Thesis	–	73

Electrical Engineering Course.

This course is arranged to supply the demand for men who have a practical knowledge of electricity, as well as a thorough knowledge of the principles and laws governing the forces and phenomena with which they have to deal. The applications of electricity are broadening out so rapidly by discovery and invention and by increased commercial applications, that new facts are to be met with almost daily. To meet these demands, the student should be well grounded in all the branches underlying his profession. This course is therefore made strong in mathematical and physical sciences. A well-equipped electrical engineer should also be a mechanical engineer, and must have some training in the principles of steam and hydraulic engineering as well as heat, plumbing, etc. Drawing, machine design, and mechanics of machinery, together with shop practice, occupy a considerable portion of the time of the student. Some general-culture studies are offered in history and economics, oratory, and English. It is believed that this course will give a broad general training, with sufficient technical knowledge to meet the needs of a practical engineer. For the first two years this course is identical with the mechanical engineering course.

PHYSICAL SCIENCE HALL.

Electrical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Algebra III	5	67
English Classics	5	60
Elementary Botany	5	47
Field-work	2½	47
Hygiene	1	87
Object Drawing	2½	58
Woodwork	5	68
Military Drill	5	74

WINTER TERM:

Geometry I	5	68
English Structure	5	60
Agriculture	5	43
Elementary Psychology	1	80
Geometrical Drawing	2½	58
Foundry	5	69
Military Drill	5	74

SPRING TERM:

Geometry II	5	68
Rhetoric I	5	60
Elementary Physics	5	82
Laboratory	2½	82
Elementary Projection	2½	58
Blacksmithing I	5	69
Military Drill	5	74

Second Year.

FALL TERM:

Chemistry	5	50
Laboratory	5	50
Trigonometry	5	68
Projection Drawing	5	58
Oratory I	2½	78
Library Lectures	1	66
Blacksmithing II	5	69
Military Drill	5	74

WINTER TERM:

Oratory II	2½	79
Chemistry of Metals	2½	50
Laboratory	5	50
Higher Algebra	5	68
Kinematics of Machinery	5	69
Library Lectures	1	66
Projection Drawing	5	58
Machine-shop I	5	69
Military Drill	5	74

SPRING TERM:

Analytical Chemistry	2½	50
Laboratory	7½	50
Analytical Geometry	5	68
Descriptive Geometry	5	58
Mechanics	2½	69
Shop Lectures	2½	69
Pattern-making	5	70
Military Drill	5	74

Third Year.

FALL TERM:

General History I	5	63
Differential Calculus	5	68
Physics	5	82
Laboratory	5	82
Oratory III	1	79
Mechanical Drawing I	2½	70
Machine-shop II	5	70

WINTER TERM:

General History II	5	63
Integral Calculus	5	68
Rhetoric II	5	61
Physics	2½	82
Laboratory	2½	82
Theory of Electricity	2½	83
Laboratory	2½	83
Oratory III	1	79
Mechanical Drawing II	5	70
Machine-shop III	2½	70

SPRING TERM:

Civics	5	63
English Literature	5	61
Differential Equations	5	68
Theory of Electricity	5	83
Laboratory	5	83
Oratory III	1	79
Mechanical Drawing III	5	70
Engines and Boilers	5	70

Fourth Year.

FALL TERM:

Direct-current Machines	5	83
Laboratory	5	84
Applied Mechanics I	5	70
Steam Engineering	5	71
Oratory IV	1	79
Machine-shop IV	1	71

WINTER TERM:

Economic Principles	5	63
Direct-current Machines	5	83
Laboratory	5	84
Applied Mechanics II	5	71
Engineering Laboratory I,	2½	71
Dynamo Design	5	84
Oratory IV	1	79
Machine-shop V	2½	71

SPRING TERM:

Hydraulics	5	71
Alternating-current Machines	5	84
Laboratory	5	84
Power Stations	5	84
Oratory IV	1	79
Engineering Laboratory IV	5	71
Surveying	2½	68
Thesis	–	—

AGRICULTURAL HALL.

STUDENTS TAKING SAMPLES OF SOILS.

Outline of Instruction.

Agriculture.

Agriculture, in its restricted sense, includes four general lines of study: Soils, crops, farm mechanics, and farm management. In the published course of study, farm mechanics and the more advanced work in soils are included in agricultural physics No. 4. Agriculture No. 1 takes up the elementary study of soils and crop production and serves as an introduction to the several branches of agriculture, animal husbandry, and dairying.

It is the purpose to make the agricultural studies thoroughly practical. Agriculture is a business. It is not truly a science, but it depends upon science, and to understand the "principles of agriculture" requires a knowledge of many sciences. Physics, botany, chemistry, geology and mathematics teach theory and science, and the studies in agriculture will assist the student to make the application and put the theory and science into practice on the farm.

1. **Agriculture.** First year, winter term, five hours per week. An elementary study of the soil—its formation, texture, plant-food, moisture, tillage, and fertility; the plant—its relation to the soil and climate, its propagation, growth and cultivation; the kinds of crops and their culture; the animal—its life, feeding, breeding, and management. Text-book, Bailey's Principles of Agriculture.

2. **Crop Production.** Second year, spring term, five hours per week. A study of farm crops as to the preparation of the seed-bed, planting, cultivating, harvesting, root systems, maintenance of soil fertility, rotation of crops, manures and fertilizers, noxious weeds, injurious insects and diseases, and their remedies. Each of the staple crops will be taken up in order, its history, characteristics, method of culture, uses, etc., noted. Seed selection and the storing, feeding and marketing of crops will receive special attention. Crops will be studied in classes as to their special purposes or uses, as hay, forage, silage, pasture, soiling, green manure, and cover crops. New crops will be investigated. All the different crops are grown on the farm, so that the students may see them, or at least see samples in the classroom, and thus become familiar with their characters and methods of culture and handling. Lectures.

Grain Judging.—One afternoon each week, as a supplement to the classroom work in crop production. This will consist mainly of work in the judging room, in the scoring of corn and common cereals according to inspectors' and buyers' standards or according to recognized standards of perfection. A special study will be made of corn in the selection of seed ears. It is surprising how few people can pick out a "good" ear of corn before they are carefully instructed and trained in the vital points, both as to desirable qualities and defects. It is just as important to select and grow a pure and perfect type of corn or wheat as it is to select a well-formed hog or a perfect type of dairy animal for breeding purposes. A higher per cent. of protein, greater productiveness, and other valuable qualities, which may be bred into corn by careful and intelligent selection, should greatly increase the value of this crop to the farmer.

3. **Farm Management.** Fourth year, fall term, five hours per week. Includes a study of the following subjects: Selection of a farm, as to location,

soil, climate, etc.; relation of farming to other occupations; the farm equipment; different systems of farming; field and crop management; keeping farm accounts; necessity, methods and kinds of accounts. Practice work is required of each student, in which he shall carefully prepare records of the farm operations and business transactions for one year on his own farm or that of some successful farmer. Questions of farm economy are carefully studied, such as employment of farm help, purchase, use and care of farm machinery, erection, and care of farm buildings and works, management and care of stock, fencing, ditching, etc. Some study will be made of rural law—relating to property, deeds, and conveyances; water rights; highways; legal fences; trespasses; contracts; liabilities of employer and employee, buyer and seller; notes, mortgages, bills of sale, affidavits, gifts, wills, taxes, etc. Farm management is meant not only to train men so that they may successfully apply business methods in carrying on their own farms but to equip them for the superintending and management of large farms. This college, as well as other agricultural colleges, has many demands for men "who are properly trained in the management of large agricultural interests," and it is the aim of this course to fit men for this work. Text-book, Robert's Farmers' Business Hand-book.

4. Agricultural Physics. Fourth year, spring term, five hours per week. A study of the physical problems of the soil as regards texture, tillage, movements of soil-water, moisture conservation, aerating, warming and draining the soil; the implements of tillage, and the purposes and principles involved in the use of the plow, harrow, roller, subsurface packer, and cultivator; laying out the farm, selecting the building site, arrangement of buildings, and methods of ventilating, warming, lighting, etc.; draft of wagons and farm machinery, road construction, fencing and ditching; farm motors, the horse, principles of draft, the evener, practical uses of power machines, wind, water, steam, gas, electric; farm machinery—elements of machines, lever, wheel and axle, inclined plane, pulley, screw and wedge, principles of friction, belting, etc. Each class of farm machinery will be taken up in its order and studied as to material used in construction, operation in the field, care, etc. Text-book, King's Agricultural Physics.

Animal Husbandry.

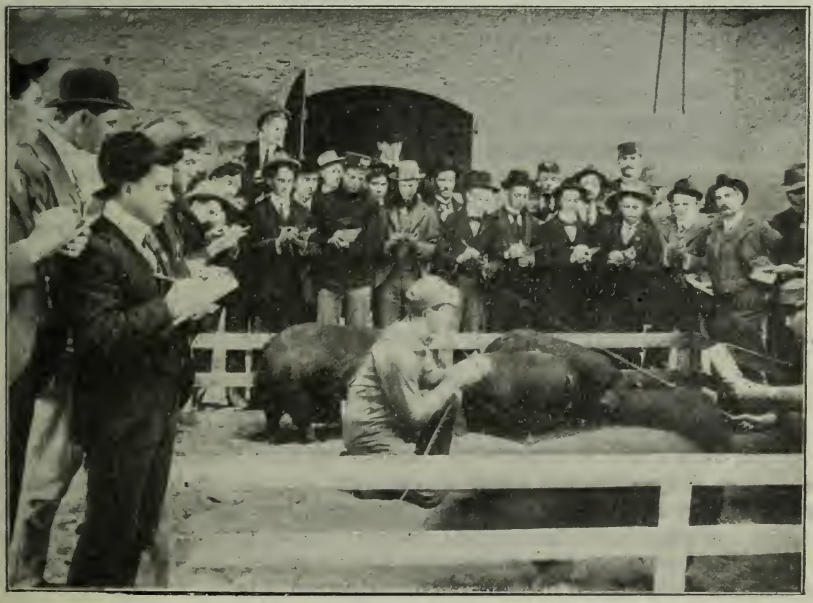
The instruction in animal husbandry is planned with a view of awakening and encouraging an intelligent interest in live stock, so that a student, when he sees an animal, will at once compare it with an ideal that he carries in his mind and note wherein it falls short.

The value of the different feeds and combinations of feeds are taught, so that the student will be able not only to combine feed stuffs to get the required nutrients, but to combine them in the most economical manner to produce desired quantity and quality of product.

The principles of breeding as related to the raising of farm animals are studied, so as to enable the student to know how our improved breeds of live stock have been developed, and how animals of superior merit may not only be perpetuated but improved. This work includes practice in tracing out pedigrees.

The aim is to give the student such knowledge and skill that will enable him to return to the farm and select, feed and breed the best live stock it is possible for him to obtain, or if he has no farm of his own, opportunities are open for young men, after getting some experience, to work into positions as farm managers. Nos. 1, 2 and 3 are required in the agriculture course.

JUDGING CATTLE.



JUDGING SWINE.

1. **Breeds of Live Stock.** Second year, winter term. A study of the market types of live stock; history and characteristics and adaptability of the breeds of live stock; selection and judging of live stock, according the official standard; form as an index to quality; practice in tracing out pedigrees. Text-books, Shaw's Breeds of Live Stock, Craig's Stock Judging.

Stock Judging.—Second year, winter term. Practice in judging chickens, beef cattle, dairy cattle, hogs, horses and sheep according to the official standards.

2. **Stock Feeding.** Third year, spring term. Properties of feed stuffs; adaptation and combination of feeds to meet the needs of various classes of stock under varying conditions; effect of feed on quality of product; preparation of feeds and methods of feeding; studying practical rations; study of experimental work in stock feeding. Text-book, Henry's Feeds and Feeding.

3. **Animal Breeding.** Fourth year, spring term. A study of the laws of heredity, atavism, condition, and variation; principles relating to fecundity; methods of cross-breeding; study of pedigrees of noted individuals and families of various breeds. Text-book, Shaw's Animal Breeding.

4. **Industrial Agriculture.** Third year, spring term, and fourth year, fall term. Those who take this elective along animal-husbandry lines will receive advanced work in judging chickens, horses, cattle, sheep, and swine; practice in judging groups of live stock similar to those arranged at county and state fairs; visiting neighboring farms and breeding yards to judge and classify stock; study of butcher animals on the hoof and on the block.

MEANS OF ILLUSTRATION.

Ten breeds of cattle are represented on the College farm—Aberdeen-Angus, Galloway, Hereford and Shorthorn representing the beef breeds: Ayrshire, Guernsey, Jersey and Holstein-Friesian representing the dairy breeds; and the Polled Durham and the Red Polled representing the dual-purpose breeds. The College has a herd of thirty common cows.

Four breeds of swine have been donated by twenty-five different breeders of Kansas, each breeder sending what he would call a model animal. This furnishes an excellent opportunity to study the ideals of successful breeders.

Several breeds of poultry are owned by the College, and the fanciers around Manhattan loan all additional birds needed for judging purposes.

The College owns some fine Percheron horses, and, in addition, secures the loan of some of the best draft and driving horses in the state for judging purposes.

The judging room, 48x96 feet, is located in a large stone barn at the north end of the College campus, and has a seating capacity of 350.

Botany.

The instruction in the botanical department is along three lines:

First, as a Pure Science.—The department aims to give the student the training in observation and scientific reasoning, and also the information which he should have as a matter of general knowledge, regardless of his subsequent vocation. Botany is the first natural science to which the student is introduced in his College course, and for this reason it is necessary that he receive in this department his elementary training in scientific methods.

Second, as a Science Underlying Agriculture.—It is well recognized that botany is one of the most important of the sciences upon which the practice of agriculture is based, for the reason that botany deals with plant life, and plant

life is at the basis of agriculture. Whenever practicable, illustrations and examples in both the elementary and advanced work are chosen with particular reference to their bearing upon agriculture.

Third, Technical Botany, including such subjects as are of direct application in agriculture. The training in the special botanical studies of the agriculture course is chiefly of this nature, as will be seen by consulting the outline below.

Of the studies described below, Nos. 1 and 2 are required in the general science and domestic science courses; Nos. 1, 2 and 3 in the agriculture course, and No. 1 in the mechanical and electrical engineering courses.

FLOWER GARDENS.

1. **Elementary Botany.** First year, fall term. This course covers the elements of morphology, physiology, and ecology. All of the great groups of plants are taken up and discussed in the order of their evolutionary development. Especial attention is given to the changes in structure which appear in response to changes in environment. Emphasis is laid upon the plasticity and adaptiveness of the plant organism. By grasping this fundamental conception at the outset, the facts of plant life, particularly studied in horticulture and agriculture, become more comprehensible and significant. A general study of the classification of the plant kingdom, sufficient to enable the student to understand the broad outlines, and the relationships of the great alliances, is secured in this course, and, by coming into close contact with plants as living organisms in their natural habitats, he becomes acquainted with the factors that regulate their life and activity. Coulter's Plant Studies is the text used.

Field-work. Two and one-half hours per week of field-work are required in this work. Certain definite problems in plant ecology, particularly with reference to the economic factors of importance in agriculture, are assigned to different groups of students, and a report of the observations made is required

to be handed in, together with drawings of the representative plants in the locality studied. The materials called for are: A drawing tablet, a key to the local flora, published by the department, and a simple lens.

2. **Plant Morphology.** Fourth year, winter term. During this term the forms and structural relations of representatives of all the great groups of plants are studied in detail in the laboratory. The object of the course is to give the student a comparative understanding of the morphological character of the more important members of the plant kingdom, and a conception of their genetic relationships and development as an evolutionary series.

Laboratory.—Laboratory work, in which accuracy of observation is tested by exact studies of representatives of all the great groups of plants, both with the unaided eye and by means of the microscope. Detail drawings according to furnished outlines are required. Drawing materials are provided by the students. All necessary reagents and instruments are supplied by the department.

3. **Plant Diseases and Breeding.** Fourth year, spring term. The first half of the term is devoted to the study of plant breeding and plant evolution. The laws of heredity and variation are studied, and their application to the improvement of economic plants by selection and cross-breeding. The extended series of experiments now being conducted by the Experiment Station will be used for illustration. The work in plant breeding is conducted by means of lectures and conferences, supplemented by laboratory and field observation so far as possible.

The second half of the term is devoted to the study of causes of disease in economic plants. The student is familiarized by the lectures with the great groups of the parasitic fungi and their chief subsidiary groups. The general morphology of these is discussed successively, and the morphology and physiology of the particular representative of each selected for laboratory study is given in detail, together with combative and preventive measures. A rich herbarium of types and a constantly growing set of duplicates furnish abundant material for the work, and is supplemented by alcoholic specimens properly killed and fixed, and by prepared slides. Ample literature on the subject of plant diseases is afforded by the library of the department and of the Experiment Station. H. Marshall Ward's Disease in Plants is used as a text. Prerequisites are courses 1 and 2 or their equivalents.

Laboratory.—Work in the laboratory, in which pathological specimens are examined, and the changes induced in plants by fungi and by abnormal physical conditions are studied in detail under the microscope. The object of this course is rather to study the workings of disease from the standpoint of the host than to become acquainted with the groups of parasitic fungi, although a sufficient study of the morphology of these for practical purposes is made in the laboratory.

GRADUATE COURSE.

4. **General Morphology of Thallophytes.** Winter term, three afternoons a week. Lectures and laboratory work. This course involves a detailed study of the morphological characters of the algæ, fungi, and lichens.

5. **General Morphology of Bryophytes and Pteridophytes.** Spring term, three afternoons a week. Lectures and labaratory work. The work begun in course 4 is here continued in the higher groups of liverworts, mosses, and ferns. Especial attention is given to evolutionary lines of development in these groups.

6. **General Morphology of Spermatophytes.** Spring term, three afternoons a week. Lectures and laboratory work. The work of this course will be given in alternate years with course 5, and covers the morphology of the gymno-

sperms, monocotyledons, and dicotyledons, representatives of each of the chief groups of these great alliances being studied in considerable detail.

7. **Morphology and Physiology of Economic Grasses.** Spring term, three afternoons a week. Lectures and laboratory work. This course contemplates a detailed study of the cereals and other economic grasses; their history, distribution, structure, and habits.

8. **Ecology.** Fall term, three days a week. This course involves the study of the reactions of plants to their environment in their associative relations as plant societies. Problems of ecological and geographical distribution will be considered, and as far as possible the work will be made individual, each student being directed into some special ecological question as early as possible. Lectures and conferences will furnish general guidance, and special reading will be assigned. The work proper will be strictly in the field.

9. **Plant Histology.** Spring term, two afternoons a week. This is a course in laboratory methods, involving a study of processes of killing, fixing and preserving plant tissue; dehydrating, embedding in paraffin and celloidin; microtome sectioning; staining and mounting of slides. A varied series of preparations will be worked upon, with a view to the acquisition of facility in technique and in the preparation of material for research.

MEANS OF ILLUSTRATION.

A general herbarium, consisting of a large collection of plants of the United States and other countries; a Kansas herbarium, containing specimens illustrating the distribution and variation of plants throughout the state; a twig herbarium, illustrating woody plants in their winter condition; and a seed herbarium, containing a representative collection of seeds and fruits, amounting, all together, to about 70,000 specimens; also thirty-eight compound microscopes, seven dissecting microscopes, tools, reagents, etc. The department is provided with a zinc culture room, and the ordinary apparatus for bacteriology, and with Minot and Schanze microtomes, paraffin embedding ovens, and a complete equipment of glassware and stains for histological and cytological work.

Chemistry.

All of the industries are becoming more and more dependent for their highest success upon intelligent application of the sciences, and the special sciences are making their greatest progress by tracing their phenomena back to the physical and chemical changes that accompany them. A study of chemistry and physics is therefore essential to any understanding of the processes of nature or human industry. In the instruction in chemistry the aim is to insist upon a mastery of the chief concepts of the pure science through the agency of text-book drill, accompanied by demonstrations in the lecture-room, and experimental observations by the student himself in the laboratory. As the course proceeds, illustrations of chemical principles are drawn from the industrial processes of the chemical, agricultural, domestic and other arts, thus impressing the practical nature of the study. The ultimate object of the instruction is to develop in the student the power to form independent judgments upon the manifold problems of daily life in which chemistry plays a part.

Of the studies described below, Nos. 1, 2 and 4 are required in all courses. In addition, the general science course requires No. 3, and 5 or 6, and allows as electives any four of the others; the domestic science course requires Nos. 3 and 5; and the agriculture course, Nos. 3, 6, and 7.

1. **Chemistry.** Second year, fall term. This term's work is designed to give the student a knowledge of the fundamental principles of the science as illustrated by the chemistry of the non-metals. The text-book is supplemented by lectures, and the subjects are amply illustrated by experimental demonstrations. Elementary physics is a prerequisite. Text-book, Remsen's Introduction to the Study of Chemistry.

Laboratory.—The course includes laboratory work five hours per week, in which the student performs most of the experiments of the text-book, or others similar. In this, as in all of the laboratory work in chemistry, the objects are to illustrate chemical phenomena, and to teach care in manipulation, attentive observation, logical deduction, and discrimination and care in recording results and conclusions. Laboratory guide, Remsen and Randall's Chemical Experiments.

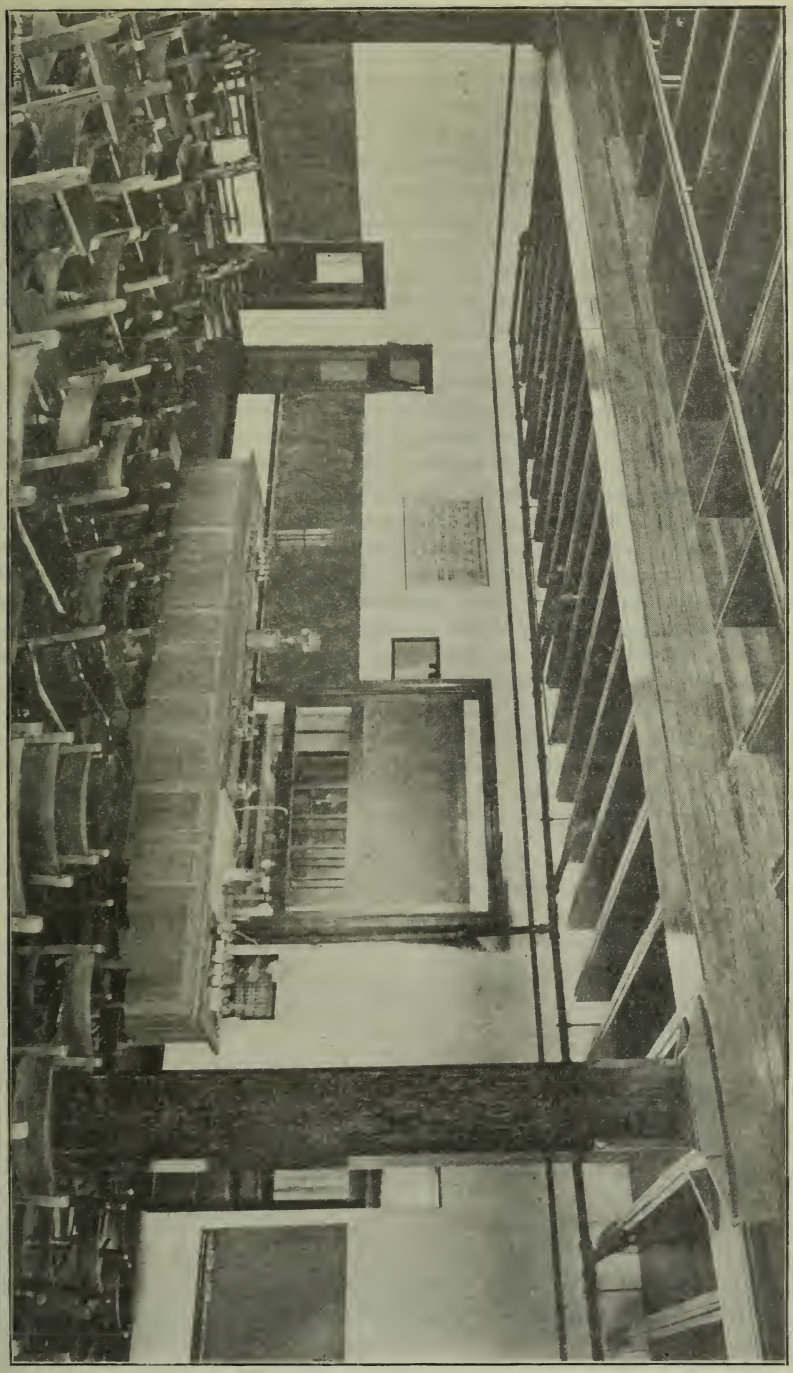
2. **Chemistry of Metals.** Second year, winter term. This is a continuation of the study of inorganic chemistry begun the preceding term. The properties and uses of the more important metals, their occurrence in nature, metallurgy, and the preparation and properties of their most important compounds are considered. At the same time opportunity is taken to develop still further the general principles of chemistry. Text-book, same as for course 1.

Laboratory.—The laboratory work of five hours per week includes exercises illustrating the lessons of the classroom, and blowpipe analysis of the more common minerals, especially those of importance to agriculture or other industries. During the second half of the term preliminary work in qualitative analysis is given, using known single salts or simple mixtures. In this W. A. Noyes's Qualitative Analysis is the text-book.

3. **Organic Chemistry.** Second year, winter term. In a course as brief as this only a few of the most fundamental general principles and reactions can be considered, and especial attention is given to topics bearing upon the arts and industries. The subject is amply illustrated by experiments on the lecture table, but the students have no laboratory work in this connection. Text-book, Remsen's Organic Chemistry (in part), supplemented by lectures. Course 1 must precede this.

4. **Analytical Chemistry.** Second year, spring term. Two lessons and recitations per week accompany the laboratory work. In these and in the laboratory the teaching of analysis as such is a secondary object, although the student is held to the exact observations and careful reasoning required in ascertaining the composition of single substances and mixtures. The prime object of the course is to increase the student's knowledge of chemistry as a whole; by approaching reactions from another direction, to obtain a broader view of the science. The lessons include a review of the more important topics of inorganic chemistry, in which it is seen that the occurrence of elements or compounds in nature and their preparation in the arts are closely connected with the reactions made use of in the identification of them in analysis. The exercises are so arranged as to pass from the simple to the more difficult, and at the same time to facilitate the comparative study of the several cations and anions. Courses 1 and 2 must precede this. Text-books, Remsen's Introduction to the Study of Chemistry, and W. A. Noyes's Qualitative Analysis.

Laboratory.—Nearly all of the work of the term is upon unknown substances, preparation for this having been made the preceding term. The work at first is upon single soluble substances, mixtures and insoluble substances being given later. Text-book, W. A. Noyes's Qualitative Analysis. The larger standard works on chemical analysis are available for reference in addition.



CHEMISTRY CLASS-ROOM.

5. **Human Nutrition.** Third year, fall term. This is a course in the chemistry of foods and nutrition, and includes the following topics, with others: Composition of the animal body; composition of foods, and methods of investigation employed in their study; the changes that the several classes of foods undergo in cooking and digestion, and the functions that they perform in nutrition; daily food requirements, and the balancing of dietaries; food economy. Some attention is also given to water-supply and water purification. Course 3 and physiology must precede this course.

6. **Animal Nutrition.** Third year, fall term. This course is designed to provide a thorough scientific basis for the study of practical stock feeding. It is a study of the relation of the animal body to matter and energy, and includes consideration of the methods of investigation employed, and of the following topics, with others: The chemical changes that feeds undergo in digestion; the tissues that can be built up by the several proximate principles of feeds, and the bodily functions that they can sustain; hence, the requirements of the animal as modified by the purpose for which it is fed; the channels through which the energy of feed is lost or is utilized. Text-book, Armsby's Principles of Animal Nutrition. Course 3 and physiology must precede this.

7. **Agricultural Chemistry.** Third year, winter term. Among the subjects treated are: The soil-making rocks and minerals, and the agencies by which soils are formed from them and other materials; the soil requirements of different crops; the sources of soil fertility, and means of conserving it; the general relations of plants to earth, air, and water; the chemical characteristics of the most important feeding-stuffs, and the effect upon composition, of differences in the mode of planting, time of cutting, selection of seed, etc. Text-books, Snyder's Soils and Fertilizers, and Henry's Feeds and Feeding. These are supplemented by lectures. Courses 3 and 4 must precede this.

Laboratory.—Five hours per week are given to laboratory work, which consists of qualitative or simple quantitative exercises upon substances of direct agricultural interest. These are so planned as to give as great a variety of training as possible in the limited time available.

MORE ADVANCED COURSES.

Advanced work in chemistry is offered in graduate courses and as electives in the general science course. Classes requiring lectures and recitations will not be organized for less than three students.

8. **Inorganic Chemistry.** Fall and winter terms. This course is a thorough study of one of the larger text-books, such as Richter's or Newth's, accompanied by a special course of laboratory work.

9. **Organic Chemistry.** Spring term. This course includes laboratory work, and the study of a text-book adapted to the advancement of the students. When sufficient demand exists it will be extended to two terms.

10. **Chemistry of Foods.** This course is designed for graduate students taking domestic science, and extends through a year. It consists of study of the literature treating of food and nutrition from a chemical standpoint, accompanied by laboratory work in the separation and study of the constituents of foods, drinks, and condiments. This course may be extended to almost any extent, and leads naturally to the quantitative analysis of foods.

11. **Quantitative Analysis.** This may be taken at any time after completing course 4. After the necessary preliminary training, the student may give special attention to any line of quantitative analysis, such as that of foods and fodders,

soils and fertilizers, ores, water, gases, etc. The investigation of special chemical questions is encouraged.

12. **Historical and Theoretical Chemistry.** This course may be arranged for by students who have completed courses 7 and 8.

13. **Mineralogy.** Crystallography, the study of minerals, and blowpipe analysis may be taken concurrently or separately.

14. **Journal Meeting.** Once a week throughout the year, the officers of the department, with the more advanced students and such others as wish to, meet for papers and discussions upon topics representing the progress of chemical science, chiefly as found in the current journals. The preparation of subjects for presentation at these meetings is a part of the required work of graduate students.

MEANS OF ILLUSTRATION.

The department now occupies its new quarters, the east wing of Physical Science hall. It still lacks much in equipment, but is far better able to do good work than ever before. The lecture-rooms are provided with excellent facilities for demonstrations, and the laboratories have the more necessary items of equipment, to which additions are constantly being made. The laboratories for the first year's work in chemistry will accommodate 138 students at one time, and the desks are so constructed that they may be used by an equal number working at another time. The laboratory for more advanced work provides places for forty-eight students. All of the laboratories are well supplied with draught-hoods. Each student's place is provided with gas and water, and distilled water is piped to all of the laboratories. The collections include representative specimens of the most important ores and minerals, a set of natural crystals, a set of large crystal models, a collection of the minerals of the noted Stassfurth deposit, and chemical preparations illustrating subjects taught.

Dairy.

1. **Dairying.** Second year, fall term. Milk—its secretion, nature, and composition; testing milk, cream, skim-milk, buttermilk, and whey; conditions influencing the quantity and quality of milk; handling of milk for market; butter-making and cheese-making; hand and power separators; cream ripening;

DAIRY BARN AND SILO.

making and marketing butter; study of cows, calves and feeds for the most economical production of dairy products. Text-books, Testing Milk and its Products, by Farrington and Woll; Milk and its Products, by Wing.

Laboratory.—Practice in testing milk and its various products; detection of adulterated milk; tests for distinguishing oleomargarine and butter; testing accuracy of glassware; study of various makes of hand and power Babcock testers; different methods of testing the acidity of milk.

Practice in receiving and separating milk; sterilizing skim-milk; pasteurizing, ripening and churning the cream; washing, salting, working, printing, packing and marketing the butter; practice with various kinds of hand and power separators; with different makes of cream-ripeners, churns, and butter-workers. Rennet tests; setting the milk; cutting the curd; developing acidity; salting, pressing and curing the cheese.

MEANS OF ILLUSTRATION.

Dairy apparatus valued at $10,000, dairy herd $5000, and model dairy barn at $3000; four breeds of pure-bred dairy cattle, two breeds of general-purpose cattle, and fifty head of calves and young stock.

Experiments in feeding cows and calves are in progress during the year. Students in dairying are required to watch and report on these experiments from time to time.

In addition to the regular College equipment, manufacturers of separators, Babcock testers and other dairy supplies have loaned the College several thousand dollars' worth of machinery for instructive purposes.

Domestic Art.

This department provides a systematic course in plain sewing and dressmaking.

The course of work in plain sewing is carefully graded, not only to insure a thorough knowledge of the subject, but to develop hapits of order, accuracy, and self-reliance. Each pupil is required to keep a note-book in which she records a description of the work accomplished. A written examination is held at the end of each term.

Of the studies described below, all young women are required to take Nos. 1, 2, and 3, and those in the domestic science course must take No. 5.

Materials for No. 1 are furnished by the College, the pupil furnishing her own thread, needles, thimble, etc. In Nos. 2, 3, 4, and 5, the pupil furnishes her own materials and makes the garments for herself.

1. **Sewing I.** First year, fall term. The pupil makes a book of models, covering the full course in hand sewing, and consisting of basting, hemming, gathering, darning, patching, etc.

2. **Sewing II.** First year, winter term. Machine practice; drafting, cutting and making underskirt and drawers.

3. **Sewing III.** First year, spring term. Drafting, fitting and making dress without lining.

4. **Sewing IV.** Second year. Cutting and making corset cover and night-dress.

5. **Dressmaking.** Second year, winter term. Nos. 1, 2 and 3 are a prerequisite for this course. The use of a dress-cutting system is taught, and each pupil will be required to draft, cut and make a woolen dress for herself. Ten hours per week are devoted to class work and about three hours' home work is required per week.

KEDZIE (DOMESTIC SCIENCE) HALL.

WOMEN'S GYMNASIUM.

Domestic Science.

Of the studies described below, Nos. 1 and 2 are required of all young women, and Nos. 3 to 10, inclusive, are required in the domestic science course. Nos. 5, 6 and 7 are elective for young women in the general science course.

1. **Hygiene.** First year, fall term. This course consists of lectures in elementary hygiene for women, and covers the care of the human body as well as the general principles of wholesome living.

2. **Elementary Cookery.** First year, winter term. Lectures, with weekly laboratory practice. The course includes the study of fuels, construction and management of stoves, and the effect of heat on the food principles in an elementary but typical manner.

3. **Laundering.** Third year, fall term. The discussion of the scientific principles involved in laundering processes is followed by laboratory practice in the laundry. Soaps, washing fluids, bleaching powders, removal of stains, bluing and starch are considered in both their scientific and practical applications to laundry work. Text-book, Laundry Manual, Balderstein and Limerick.

4. **Home Nursing.** Third year, winter term. This course includes the study of the care of adults and children in sickness and convalescence; aids in sudden illness and to the injured; contagious and infectious diseases, together with sanitary conditions and precautions. Text-book of Nursing, Weeks-Shaw.

5. **Domestic Science I.** Third year, fall term. The fall work opens with the preservation of fruits and vegetables in canning, preserving, and the making of jellies, jams, and fruit juices. Breakfast sequence. The effect of heat on the food principles used in breakfast dishes and beverages is followed by the preparation and serving of breakfasts, considering also quantities, food values, and costs. Text-books, Boston Cooking School Cook-book, Miss Farmer; Expert Waitress, Springstead.

6. **Domestic Science II.** Third year, winter term. Luncheon and supper sequences. The cookery of luncheon and supper dishes is followed by a study of food combinations in bills of fare, and the serving of luncheons and suppers, together with discussions of food values, quantities, and costs. Text-book, same as for domestic science I.

7. **Domestic Science III.** Third year, spring term. Dinner sequences and dietaries. The first part of the term is occupied in the cookery of dinner dishes, construction of bills of fare, and the serving of the dinners, together with a study of food values, quantities, and costs. The last part of the term is spent in a study of dietaries. Text-book, same as for domestic science I.

8. **Home Sanitation.** Fourth year, fall term. This course is a continuation of home architecture, and includes disposal of waste, purity of water, beautiful furnishings, with a study of textiles and utensils; also the cleansing of the house. Reference work required.

9. **Therapeutic Cookery.** Fourth year, winter term. This work comprises special cookery for the sick, and the various ways of administering food to the sick and convalescent. Text-book, Food for the Sick, Doctor French.

10. **Household Economics.** Fourth year, spring term. Development and organization of the home, systematic methods of housekeeping, cost of living, rational division of income and household accounts are topics carefully considered. Papers and reference work required.

Apron, sleeves, cap, towel and holder worn by young women in cooking classes.

Drawing, Descriptive Geometry, and Architecture.

Drawing is the language of form and the key to every artistic and nearly every industrial pursuit. The educational and practical value of an extended and systematic course in its various branches can hardly be overestimated. The general aims of the several courses in industrial art are the same: (*a*) The cultivation of observation and analysis of form; (*b*) the development of correct taste; (*c*) the teaching of the different methods of graphic representation; (*d*) the acquirement of skill in handling drawing tools.

Of the studies described below, Nos. 1 to 6, inclusive, are required in the mechanical and electrical engineering courses; Nos. 1, 2, and 3, in the general science course; Nos 1, 2, 3, 4, and 9, in the domestic science course; and Nos. 1, 2, 3, and 10, in the agriculture course.

The College furnishes drawing-board, T square, triangles and water-colors for the graphic work done at the College; but all tools for home use, including drawing board, T square, triangles, compasses, shading pen, and protractor, must be furnished by the student.

1. **Object Drawing.** First year, fall term. Discussion and drawing of geometrical models and simple objects. Exercises in shading from the object and from the imagination.

2. **Geometrical Drawing.** First year, winter term. Construction of perpendiculars, parallels, angles, polygons, tangents, etc. Construction of the ovoid, oval, ellipse, and spiral. Drawing, in India ink and water-colors, of various geometrical designs and architectural forms. Use of drawing-board and T square. Text-book, Walters's Industrial Drawing, envelopes 11 and 12.

3. **Elementary Projection.** First year, spring term. Principles of orthographic projection; the profile plane; the secant plane; rotation in space; change of ground line. Development of surfaces. Interpenetrations of the prism, pyramid, and polyhedron. Projection of the circle, cylinder, and cone. Exercises in pen and brush shading.

4. **Projection Drawing.** Second year, fall or winter terms. Construction and projection of the conic-section lines. Construction of the cycloid, involute, spiral, cissoid, conchoid, curve of pursuit, helix, etc. Construction of screw forms. Interpenetrations of the cone, cylinder, and sphere. Shades and shadows of simple geometric forms. Exercises in pen and brush shading.

5. **Projection Drawing.** Second year, winter term. Problems in monodimetric and isometric projection. The approximate development of the sphere. Problems on the spheric triangle. Shades and shadows produced by local light. Exercises in pen and brush shading. Instruction and practice in the manipulations of the black- and blue-printing processes. Principles of linear perspective.

6. **Descriptive Geometry.** Second year, spring term. Discussion and solution of the usual problems relating to the point, right line, and plane. Generation and classification of lines and surfaces. Discussion and construction of tangents, normals, and asymptotes to lines. Study of osculation, rectification, and radius of curvature. Construction of tangent, normal and asymptotic planes and surfaces. Construction of tangents to curves of intersection. General characteristics of warped surfaces. Graphic analysis of the hyperbolic paraboloid, the conoid, the hyperboloid of revolution, the cylindroid, the helicoid, etc. Construction of tangent planes to warped surfaces. Construction of tangent hyperboloids.

7. **Perspective and Sketching.** Third year, winter term. Linear perspective is taught as central projection, and is intended to furnish the scientific answers to the questions which constantly confront the student of drawing from the object. It comprises the subjects of vanishing points, vanishing traces, measuring points, cylindric perspective and perspective corrections, shades and shadows in perspective, studio methods. The models used in the work in sketching are objects of utility and beauty, whose forms bear close relationship to geometrical types. The students are led to recognize the facts, relations and principles involved in the apparent form of the object, to note the distribution of light, shade, shadow and reflection on the same, and deduce the general principles which the observation and comparison of these appearances are found to establish. Each student is required to make eighteen original crayon sketches during the term.

8. **Advanced Object Drawing.** Fourth year, spring term. Exercises in pen drawing, crayon and brush shading, architectural and machine drawing, illustrating thesis work, at the option of the student.

9. **Home Architecture.** Second year, winter term, This study is taught by lectures covering the following topics: Location of the home; landscape surroundings; roads, walks, fences, and outbuildings; the individuality of the home; building materials; the historic development of the dwelling-house; foundations and basement; the arrangement of the main-floor rooms; the roof and attic; heating and ventilation; water-supply; water-closets, cesspools, and other drainage problems; paint and varnish; interior decoration; the schoolhouse. Each student is required to design a set of plans, elevations and details of a residence, with modern provisions for heating, ventilation, and drainage.

10. **Farm Architecture.** Third year, fall term. A course of lectures on the following topics: The dwelling-house, roads, walks, culverts, and fences; the general-purpose barn; the dairy barn; the poultry-house and other outbuildings; heating and ventilation; water-supply and drainage. Each student is required to draw a set of plans, elevations and details of a modern dairy barn.

11. **Architectural Course.** The courses of study for all engineering branches must necessarily be the same with regard to work of a preparatory or general character, but differ with regard to the professional branches. Students who intend to take architecture in place of mechanical engineering may substitute architectural studies for the strictly professional work of the third and fourth years of that course. The department of industrial art is well equipped to teach the branches named. It owns a rapidly growing collection of illustrative building material, complete sets of drawings and blue-prints of most of the Kansas state buildings, a photographic camera, a dark room equipped with running water and ruby light, etc. The substantial buildings of the institution and its complete system of heating and lighting furnish additional illustrative material.

LOVERS' LANE.

English Language and Literature.

As its name implies, the work of this department is twofold; on the one hand it deals with the derivation, nature and especially the effective use of our mother tongue in practical discourse; on the other, it studies the literature of the English-speaking world, especially as exemplified by the master writers at different periods of our literary development. Thus the attention of the department is devoted to the study of rhetoric and to the study of literature.

The aim of the instruction in rhetoric is to give a thorough and systematic training in the principles and practice of English composition. The most common errors to which inexperienced writers are subject are pointed out and criticized. The elements of style are studied from a text-book, discussed in daily recitations, and applied practically in the writing of paragraphs, themes, and essays. Attention is given to methods of finding and arranging material and to the application of these methods in the various types of discourse.

In literature, the instruction seeks to give the student an understanding of the nature and characteristics of literature in its leading forms, to develop in him a taste for the best literature and enthusiasm for literary study, to impart to him right methods, to train him in the ability to judge with confidence the literary qualities of any given work, and, through sympathetic study of their masterpieces, to give him some knowledge of the leading authors.

In most of the course the work is pursued by a combination of lectures, classroom study, and seminary investigation. The literature is read at first hand and the student is required to do for himself, by way of interpretation, as much as possible. The extensive and intensive methods are combined: wide reading, to get literary atmosphere and breadth of view; critical study, to develop accuracy and insight. While historical conditions are not neglected, the weight of emphasis is placed upon the permanent qualities of literature as an artistic expression of life. To know what some one has said about a great author is deemed to be of less of importance than to know what a great author has said for himself.

Of the studies described below, Nos. 1, 2, 3 and 4 are required in all courses; No. 5 is required in the domestic science course, and may be taken as an elective in the general science course; No. 6 is required in the engineering and agriculture courses; Nos. 7 and 8 are required in the domestic science and general science courses.

1. **English Classics.** First year, fall term. The careful study of a number of standard authors, English and American, of first-class interest and easy style. As far as possible, the selections are read and discussed in class. Character sketches, paraphrases, abstracts, and analyses, as well as biographical sketches of the authors, are frequently required, so that the students are not only given continual opportunity for studying and rendering the best thought in the best forms, but are, at the same time, encouraged to develop their own thought and powers of expression.

CLASS READINGS.

Coleridge's Ancient Mariner, Tennyson's Princess, Shakspere's Merchant of Venice, Dryden's Palamon and Arcite, Lowell's Vision of Sir Launfal, George Eliot's Silas Marner, Cooper's Last of the Mohicans.

2. **English Structure.** First year, winter term. A study of the etymology of derivative words, of synonyms, of the uses of words, and of the principles of sentence structure, with practical exercises in word and sentence analysis.

3. **Rhetoric I.** First year, spring term. The work of this course is an extension and application of that begun in composition. The student is encouraged

to write freely upon subjects that appeal to him and that arise out of his daily experiences. He is trained, so far as possible, to criticize his own work, to be satisfied with nothing short of excellence, and to realize that composition need not be drudgery and may become a pleasure. Especial attention is given to description and narration.

4. **Rhetoric II.** Third year. Fall term in the domestic science, agriculture and general science courses; winter term in the engineering courses. Theory and practice. Rhetorical analysis. Paragraph and essay writing. Plan-making. Argumentative and oratorical criticism. Studies in oratorical invention and style. Lectures on oratorical composition. Especial attention is given to both the theory and the art of exposition, argument, and persuasion.

5. **American Literature.** Third year, spring term. A rapid survey of the rise and development of American authorship from colonial times to our own day. Study of the lives of representative men of letters. Seminary study of some of the great novels, essays, and longer poems. Classroom study and interpretation of some of the more difficult poems. Lectures.

6. **English Literature.** Third year, spring term. A brief survey of the rise and development of English literature, with library study of typical writers of each period. Lectures: The nature of literature; the nature and elements of poetry; the great periods of English literature. Study of masterpieces.

7. **English Literature I.** Fourth year, winter term. History of the English language and literature. Lectures: What literature is; what poetry is; the beginnings of fiction; the nature of the drama; the plays of Shakspere; the age of Scott, Burns, and Wordsworth; Tennyson and his relation to his age; Browning's theory of art. The study of Thackeray, Shakspere and other great writers out of class, with reports and discussions. The intensive study and interpretation in the class of great masterpieces.

8. **English Literature II.** Fourth year, spring term. A continuation of English literature I.

Entomology and Zoology.

It is not necessary to enlarge upon the importance of the studies in this department either to the student seeking general culture or to the specialist in agricultural lines. The fundamental facts of zoology underlie all appreciation of the special studies peculiar to our institution in animal biology, and are moreover essential to an understanding of the true relation subsisting between man and the creatures under his influence; while those of geology show the application of many principles of physics and biology to commonly observed but otherwise little understood phenomena daily before every one. In courses of study framed to meet the needs of the young in an essentially agricultural community, where most have come from the farms, and most must return to them, a study of the minute but important insect friends and foes of the cultivator is not only desirable but essential. The study of insects, however, offers, in addition, especial opportunity for the development of habits of discriminating observation that will be of value in any walk of life.

Courses 1, 3 and 4 are required in the agriculture, domestic science and general science courses.

1. **Entomology.** Second year, fall or spring term. In the work of this term, the intention is to give the student a basis for the intelligent appreciation of the important relations of the science to agriculture and horticulture. A brief view of structural types precedes an outline of insect classification, and a special

JUDGING POULTRY.

study of the economic bearings of the subject completes the work. Illustrative material is furnished from the individual collections of the students and from the College museum. Charts, dissections and drawings from nature are used to illustrate points of value in classification. The pocket lens used in botany is required in this study. Text-book, Comstock's Manual for the Study of Insects, abridged.

2. **Advanced Entomology.** Fourth year, elective. Courses are offered in the following lines: (*a*) Review of the general subject, with the text-book, Comstock's Manual, extended. This study is desirable as preliminary to work in systematic or economic entomology. (*b*) Entomological methods, including field-work in observation and collection, laboratory work in preparation, dissection, and preservation, and in the study of life-histories, by the aid of the vivarium. (*c*) The independent and critical study of systematic entomology, the work in which may be restricted, when desired, to groups of special agricultural importance. (*d*) Economic entomology, so far as relates to the insects of field and garden, with a special study of methods of repression.

3. **Zoology.** Third year, fall, winter or spring term. This course is an introduction to the study of animals—their structure, functions, habits, origin, relationships, and classification. The student is first introduced to the simplest forms of animals, in which structure and function are expressed in their simplest terms. From the consideration of these he passes in a natural manner to the study of higher and more complex forms, thus obtaining a knowledge of the gradual differentiation of structure and correlative specialization of function so clearly illustrated by the study of types. Special attention is paid to animal ecology, *e. g.*, the relation of animals to their environment, effects of climate, soil, etc.; parasitism, commensalism, symbiosis; natural and artificial selection;

the interdependence of species, and the caution which must be observed in interference with these natural relations. The course should be preceded by organic chemistry and physiology.

MEANS OF ILLUSTRATION.

The zoological museum, containing numerous representatives of the several classes, especially full in fishes and mollusks of Kansas and in illustrations in economic and systematic entomology. Increasing material in skins, alcoholic and anatomical preparations is available also for the use of the student.

4. **Geology.** Third year, winter or spring terms. In this study attention is chiefly given to the subject of physical geology, with a brief view of the arguments and basis of the historical phase of the science. The illustrative collections embrace ample series of specimens, including the College collection of rocks, the stratigraphical collection, and the collection illustrating phenomenal geology, all from the Ward establishment; the educational collection, from the United States Geological Survey; and a valuable series of rocks and rock-forming minerals, from the National Museum. To these are added numerous specimens, especially from Kansas localities; and a small but increasing representation of characteristic fossils is also open to the student.

History and Economics.

Whatever occupation in life men may adopt—whether they become farmers, lawyers, teachers, or merchants—they are first of all citizens. For this reason the College offers to its students instruction in those subjects which fit them in a special manner to discharge the duties which they owe to their state and to the nation, and to form an intelligent judgment concerning the public questions which, as voters or perhaps as officers, they will be called upon to meet. The work of this department is arranged with this end in view.

Nos. 1, 2, 3 and 4 are required in all courses; No. 5, in the general science and domestic science courses.

1. **General History I.** Third year, fall term. An outline of European history from the fall of Rome to the beginning of the Protestant reformation. Special attention will be given to the development of institutional life, particularly the growth of the English constitution, the influence of the crusades and the beginning of the renaissance. Text-book, Adams's European History.

2. **General History II.** Third year, winter term. A continuation of course 1, extending as far as the congress of Vienna. The Protestant reformation, thirty years' war, rise of modern nations, development of absolutism and the cause of the French revolution will be the chief topics here. Text-book, Schwill's Modern Europe.

3. **Civics.** Third year, spring term. This course is given by lectures and text-books, and involves a study of the formation of the constitution, the organization and methods of the federal, state and local governments, the most important sections of the state and federal institutions, and a discussion of current topics in politics and legislation. Text-books, Andrew's Manual of the Constitution, Boyd's Cases.

4. **Economic Principles.** Fourth year, fall term. This course is an introduction to the general subject, with elaboration of certain aspects. Care is taken to compare conflicting views and to point out sources of information on all sides of vexed questions. Sound thinking rather than the dogmatic teaching of certain views is the object sought. Text-book, Walker's Political Economy, briefer course.

. **American History.** An advanced course in American history will hereafter be offered for juniors in the general science course and seniors in the domestic science course, during the spring term. The aim will be to study a brief period of our constitutional history each year, giving particular attention to the development of the federal constitution, rise of political parties, development of our foreign policy, etc. An extensive use of the library will be required of the student, and particular attention will be given to correct methods of historical investigation.

6. **Constitutional Law.** Third or fourth year, spring term. This course is an elective for those students of the third and fourth years who have had civics. In it, during the first half-term, some of the leading decisions of the supreme court interpreting the constitution are studied. In the second half-term, lectures are given on the principles of international law. Text-books, Black on the Constitution, Cases on Constitutional Law.

Horticulture.

It is the object of the department to give such instruction and practice as will enable students to become acquainted with the general principles of plant culture and the application of these principles. Students in the agriculture course are assigned to three terms of class work (1, 2, and 3) and two terms of industrial work during the course. The work is planned to give them such knowledge of horticulture as will best help to increase the comforts, beauties and profits of life on the farms. The young women of the domestic science course are assigned to classes in 1 and 4, and may elect one term in ornamental gardening.

Students in the general science course are assigned to 1, and may elect industrials through the last three years of the course, and other subjects during the terms when classes are formed.

1. **Principles of Horticulture.** Second year, fall term. The work of this term presents the principles of the art, introducing the facts underlying methods of propagation, nursery, orchard and garden treatment; the handling, storing and marketing of fruits. The text-book, Goff's Principles of Plant Culture, is supplemented by lectures.

2. **Forestry.** Third year, winter term. The work of this term presents the general principles and methods of forestry; dealing with the relation of forests to public welfare and the means of regulating, preserving and extending forests. Gifford's Practical Forestry forms the basis of the term's work, supplemented by lectures upon tree-planting for the farm, care of wood-lots, windbreaks, post-planting, etc.

3. **Vegetable-gardening and Small-fruit Culture.** Third year, spring term. The work of this term is given by lectures, and is devoted to methods of field operations, with special attention to seasonable practice, including the use of manures, the application of fungicides and insecticides, the means of securing and maintaining sanitary conditions, and a detailed study of varieties, with reference to their adaptation to local conditions.

4. **Floriculture.** Third year, winter term. This subject, open to young women of the domestic science course, includes general greenhouse work in propagating, potting and caring for plants, window-gardening, the growing of plants in the open air, the treatment of bulbs, annuals, and perennials, and the destruction of plant pests. Practice work alternates with lectures on these topics.

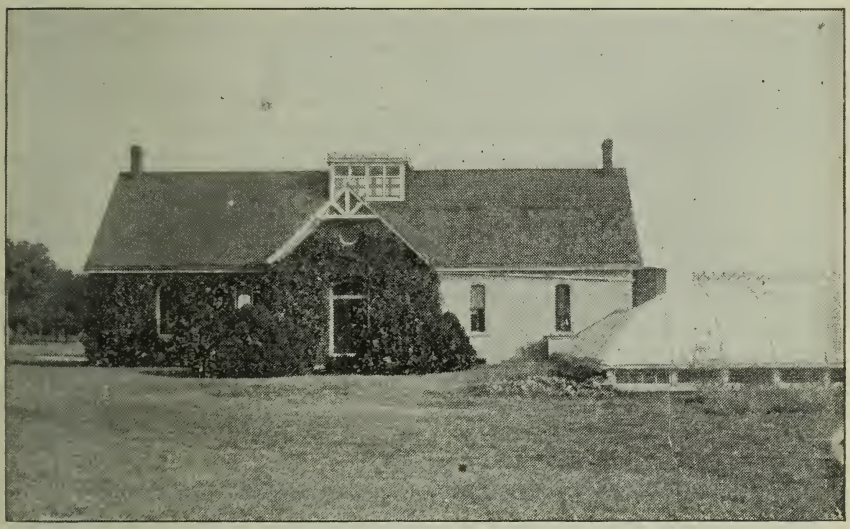
5. **Industrial Horticulture.** Second year, winter term. The practical work of this term is devoted to indoor methods of propagating fruit and ornamental

trees and shrubs, winter pruning of fruit- and forest-trees, and forcing-house work with vegetables.

6. **Industrial Horticulture.** Third year, fall term. The practical work of this term is largely devoted to the seasonable operations of gathering and storing seeds, fruits, and vegetables, the preparation of vegetables for market, the winter protection of garden plants, small fruits, and ornamentals, fall work in orchard and vineyard, and selection and preparation of material for propagation.

ELECTIVES.

7. **Pomology.** Fall term. The work of this term comprises a careful study of varieties of fruit, the means of identification, their variation, in plant and fruit, under different conditions of soil and culture, and their botany and history. The same work with the small fruits may be carried on during the spring term.



HORTICULTURAL HALL AND GREENHOUSES.

8. **Ornamental Gardening.** The principles of this art are studied in relation to their application to the planning and planting of home grounds, streets, parks, and cemeteries. The value of the various trees, shrubs, annual and perennial herbaceous plants for securing desired effects are taken up in detail, with special reference to their use under differing climatic and soil conditions. Graduate students or those electing more than a single term's work in this subject study in fuller detail the foregoing topics and also the propagation, training and general culture of the various plants.

9. **Industrial Horticulture.** Students who elect practical work in horticulture are given more detailed instruction in the work outlined in the regular industrial work, and more advanced work in orchard, garden, nursery, and forcing-house, and in the use of spraying apparatus. Special industrial work in floriculture may be arranged for by either young men or young women. Graduate students who elect horticulture as their major study may devote more than one term to work in the subjects mentioned, and may have other classes arranged in orchard management and the means of maintaining sanitary conditions. A

term's work in the literature of horticulture gives added opportunities for acquaintance with standard works and writers upon various subjects.

The increasing interest in the preservation and increase of forest areas has created a demand for more extended information concerning forest work and methods. The plantations of the College, standing as they do in different soils and situations, offer material for comparison with native growths. The nursery offers opportunity for experience and observation in methods of propagation and transplanting and the formation of new plantings. Young men in the junior and senior years of the general science course may elect the following more extended course than is offered in the agriculture course:

10. **Dendrology.** Lectures. The characters of trees; their habits of growth as influenced by local conditions; distribution of the different species; special study of the native species; flower, leaf and seed characters; methods of propagation.

Industrial.—Nursery practice; planting, thinning and pruning of plantations; pruning and care of shade and ornamental trees.

11. **Forest Technology.** Text, Boulger's Wood. Structure and growth of wood; their classification according to structure and economic uses.

Industrial.—Gathering and storing of seeds; fall and winter planting; special treatment to insure germination, etc.

12. **Silviculture.** Lectures and references. Life-history, laws of growth and requirements of forests; forest characteristics; trees important in forestry and to farm plantings; relation of forestry to national economy.

Industrial.—Forest mensuration. Determinations of volume, height, and stand, and the determination of the volume, height and stand increments. Stem analysis; valuation surveys, etc.

13. **Forest Management.** Plans and plantings of forests; their cultivation, care, and protection; plantings for definite purposes—to prevent erosion, protection from wind, to fix shifting sand, to regulate floods, for the utilization of worthless areas; harvesting, utilization, etc.

MEANS OF ILLUSTRATION.

Orchards comprising seventy-five varieties of apples, forty of plums, thirty of peaches, fifteen of cherries; plantations of native fruits; small-fruit plantations containing many varieties; vineyards containing 175 varieties and six forms of trellises; a large collection in the arboretum and on the grounds of shrubs and timber, shade and ornamental trees; about thirty acres of forest plantings; fifteen acres of nursery and garden; a large collection of native and foreign plants in greenhouses; a collection containing 200 models of fruit; a grape herbarium containing leaves, canes, seeds and photographs of the fruit of 175 varieties of grapes; collections and specimens of woods; herbarium of fungous diseases, and numerous charts. The general library and the department library furnish ample opportunity for research work in various lines.

Library.

Library Lectures. Second year, fall and winter terms. In all the educational institutions there is a tendency to require of students an increased amount of personal investigation along the lines of the studies pursued. The adherence to text-books is less rigid, and the consultation of the various authorities is advised by all instructors. This work necessitates the student spending many hours in the library, among the books with which he is unfamiliar. It is the object of his course of lectures to acquaint the student with the arrangements and con-

veniences of the library, that he may do his reference work more easily and quickly.

The lectures will be required in all courses. The student will be taught thoroughly the system of classification in use in the library, the arrangement of the books in the stacks, and the reasons for such arrangement. He will be instructed in the use of general reference works, the College card catalogue, and the cumulative index. Attention will be directed to the Experiment Station index and the index now being issued by the United States Department of Agriculture. One lecture will be given upon the government documents and mode of finding material therein contained, and one lecture upon the purchase and care of books in private libraries.

Each lecture will be followed by work in the stack-room, affording the student an opportunity to apply the knowledge obtained from the lectures.

CORNER OF CAMPUS.

Mathematics.

It is the aim of the department of mathematics to give a thorough training in a small number of subjects, and to develop in the student the ability to attack new problems, rather than to burden his mind with a large number of facts and special methods. The laboratory plan of instruction is largely adopted. It is also characteristic of the methods of the department that an attempt is made to give the mathematical subjects a touch of human interest by directing the attention of the student to the historical development of these subjects. The following statement contains a brief description of the courses to be given next year:

All numbers are required in the engineering courses; Nos. 1, 2, 3, 4, and 6, in agriculture; Nos. 1, 2, 3, and 4, in domestic science; Nos. 1, 2, 3, 4, 5, and 6, in general science.

1. **Algebra III.** First year, fall term. Text-book, Wells's New Higher Algebra. Quadratic equations, ratio and proportion, arithmetical and geometrical progressions.

2. **Geometry I.** First year, winter term. Text-book, Gore. First, second and third books, with exercises for original demonstrations.

3. **Geometry II.** First year, spring term. Continuation of course 2. Fourth, fifth, sixth, seventh and eighth books, treated as before, with special attention to original work.

4. **Trigonometry.** Second year, fall or spring terms. Text-book, Wentworth. Solution of plane triangles, essentials of goniometry, applications to surveying and navigation.

5. **Higher Algebra.** Second year, winter term. Text-book, Wells's New Higher Algebra. Binomial theorem, undetermined coefficients, logarithms, and general theory of equations.

6. **Surveying.** Second year, spring term. Field-work, two and one-half hours per week. Use and adjustment of instruments; chaining, leveling, and land surveying. The data for a definite series of problems laid out during course in trigonometry are obtained in the field; results platted and computed.

7. **Analytical Geometry.** Second year, spring term. Text-book, Wentworth. Rectangular and polar coordinates; the straight line, circle, ellipse, parabola, hyperbola, and the general equation of the second degree.

8. **Differential Calculus.** Third year, fall term. Text-book, Osborne. The various methods of differentiation, with the usual applications.

9. **Integral Calculus.** Third year, winter term. Same text. Integrations, with applications.

10. **Differential Equations.** Lectures on the theory of the subject, with solution of examples of the various types.

In addition to the above, courses in theory of equations, advanced calculus, theory of functions or other branches of higher mathematics may be given to graduate students, or to undergraduates who are able to carry extra work.

Mechanical Engineering.

The subjects in this course are adapted primarily to the needs of the students in mechanical engineering, but a few subjects are introduced to meet the requirements of the other courses. The subjects are so arranged that the student first learns the principles upon which the action of a mechanism depends in the classroom, and afterwards studies the action of the same mechanism in the laboratories and shops.

In the mechanical engineering course, all studies below are required but 10, 23, and 36.

In the agriculture course, studies 1, 2, 3 and 10 are required.

In the general science course, 1, 2 and 3 are required, and additional shop work is optional.

In the electrical engineering course, all subjects for the first two years are required. In the third and fourth years, 12, 13, 15, 16, 19, 20, 21, 23, 25, 26, 27, 31, 32 and 36 are required.

1. **Woodwork.** First year, fall term. A graded set of problems in joining is given, together with practice in working to dimensions, and the proper use and care of bench tools. In connection with this term's work, lectures are given once a week, and students are given an examination upon the subjects taken up in the lectures. Advanced woodwork is given for the students in the general science and other courses who select their industrial in this department.

2. **Foundry.** First year, winter term. Foundry practice is given in both floor and bench molding, including the making of cores, brass and iron castings, and the mixing of special alloys. Cupola practice and the making of machine castings for shop use are included.

3. **Blacksmithing I.** First year, spring term. A graded set of problems designed to teach the operations of drawing, upsetting, welding, and forming, accompanied with instruction in the care of fires and the behavior of iron at different heats.

4. **Blacksmithing II.** Second year, fall term. Advanced work in the forging of iron and the manufacture of steel tools. Instruction is given in tempering, case-hardening, and annealing.

BLACKSMITH SHOP.

5. **Kinematics of Machinery.** Second year, winter term. An elementary course in mechanisms, particularly the principles involved in the construction of gears, cams, and quick return motions. Preparation required: Trigonometry. Text-book, Jones's Machine Design, volume I.

6. **Machine-shop I.** Second year, winter term. Practice in chipping, filing, scraping, and laying out work from drawings.

7. **Shop Lectures.** Second year, spring term. Lectures are given on the construction, use and care of shop tools and on shop methods. Students are marked on notes taken in lectures and on examinations at middle and end of term.

8. **Mechanics.** Second year, spring term. A course in elementary mechanics, including the laws of motion, force, work, and energy, together with the composition and resolution of forces. Preparation required: Trigonometry and kinematics of machinery. Text-book, Dana's Elementary Mechanics.

9. **Pattern-making.** Second year, spring term. This term's work includes wood-turning and pattern-making. Each student is required to turn several specimens and make various patterns.

10. **Agricultural Mechanics.** Third year, fall term. This subject is given to agriculture students. Instruction is given by means of lectures on the design and construction of traction-engines, boilers, and other machines likely to be met with on the farm, The lectures are followed by work in the machine-shop, in bolt-making, grinding, screw-setting, and repairing of machinery. The work in the machine-shop is followed by practice in the operation of traction-engines.

11. **Power Transmission.** Third year, fall term. A course in the transmission of power by means of belts, ropes, gearing, linkages, etc. The time is devoted to the study of the strength of the individual parts and the efficiency of each system. Preparation required: Mechanics and analytical geometry. Text-book, Jones's Machine Design, volume II.

12. **Mechanical Drawing I.** Third year, fall term. Exercises in lettering, shading, and the drawing of simple mechanisms.

13. **Machine-shop II.** Third year, fall term. Instruction in lathe work, gear-cutting, boring, and drilling.

14. **Valve Gears.** Third year, winter term. A study of the design, construction and operation of the valve gears and linkages of steam and other engines. Preparation required: Power transmission and differential calculus. Text-book, Peabody's Valve Gears for Steam-engines.

15. **Mechanical Drawing II.** Third year, winter term. The designs of cams, gears, and quick return motions. Preparation required: Mechanics and mechanical drawing I.

16. **Machine-shop III.** Third year, winter term. Advanced work in lathes, planers, and milling-machines, including tool-making.

17. **Steam-boilers.** Third year, spring term. A study of the construction, erection and operation of steam-boilers and appliances, including the study of tools. Preparation required: Valve gears and integral calculus. Text-book, Peabody & Miller's Steam-boilers.

18. **Graphic Statics.** Third year, spring term. The graphic solution of the problems arising in the construction of roofs, bridges, and other frame structures. This subject is taught by means of lectures and drawing exercises. Preparation required: Mechanics and mechanical drawing II.

19. **Mechanical Drawing III.** Third year, spring term. A continuation of mechanical drawing II, and practice in machine drawing.

20. **Engines and Boilers.** Third year, spring term. The work of this term consists of instruction in the operation and care of boilers and engines, both stationary and traction, and exercises in steam-fitting.

21. **Applied Mechanics I.** Fourth year, fall term. The application of the principles of theoretical mechanics to problems arising in practice. Preparation required: Power transmission and differential equations. Text-book, Goodman's Mechanics Applied to Engineering.

22. **Thermodynamics I.** Fourth year, fall term. A study of the thermodynamic principles of the steam-engine, including both saturated and superheated vapors, and the theory of injectors. Preparation required: Steam-boilers and differential equations. Text-book, Peabody's Thermodynamics of the Steam-engine.

23. **Steam Engineering.** Fourth year, fall term. A course in elementary thermodynamics, valve gears, and steam-boilers, given to electrical engineering students. Preparation required: Calculus. Text-book, Kinealy's Steam-engines and Boilers.

24. **Machine Design I.** Fourth year, fall term. The design of the valve motions and reciprocating parts of the steam-engine, and work in the drawing-room, as designed to accompany the classroom work in thermodynamics I.

25. **Engineering Laboratory I.** Fourth year, fall term. Experiments in valve-setting, efficiency of hoists, gage and planimeter tests, etc. Preparation required: Third-year mechanics and steam-boilers or steam engineering. Text-book, Smart's Laboratory Practice.

26. **Machine-shop IV.** Fourth year, fall term. The time of this term is devoted to the building of a small machine or making the parts of a large one.

27. **Applied Mechanics II.** Fourth year, winter term. A continuation of the work of the previous term, including a study of the strength of materials, and the design of structural members. Preparation required: Applied mechanics I. Text-book, Goodman's Mechanics Applied to Engineering.

28. **Thermodynamics II.** Fourth year, winter term. A continuation of the work of the previous term, including the thermodynamics of gas-engines and air-compressors. Preparation required: Thermodynamics I. Text-book, Peabody's Thermodynamics of the Steam-engine.

29. **Machine Design II.** Fourth year, winter term. The design of a complete machine, engine, or boiler; an application of the principles studied in thermodynamics and applied mechanics. Preparations required: Machine design I, thermodynamics I, and applied mechanics I.

30. **Engineering Laboratory II.** Fourth year, winter term. A continuation of the previous term's work, with practice in running steam-engine and air compressor tests. Preparation required: Thermodynamics I and applied mechanics I.

31. **Machine-shop V.** Fourth year, winter term. A continuation of the previous terms' work.

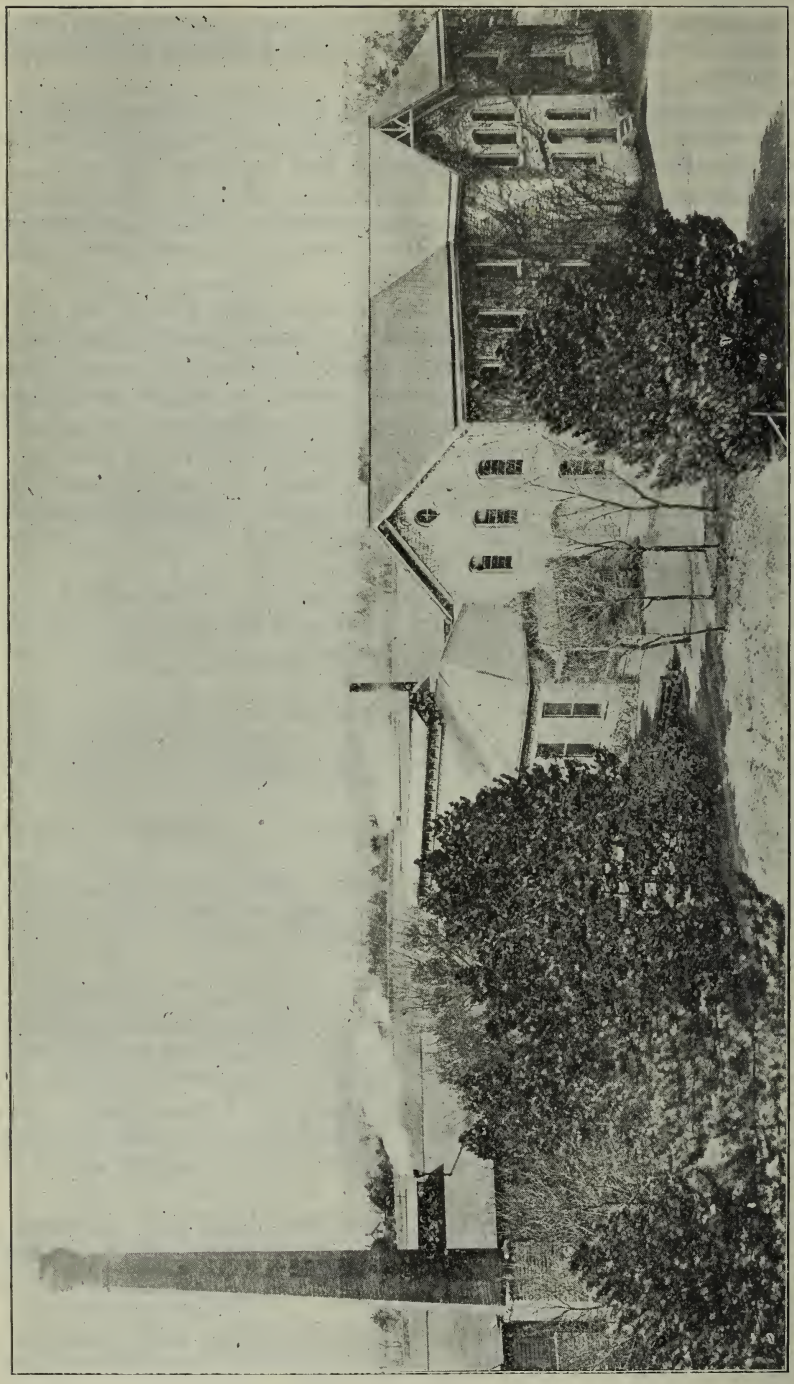
32. **Hydraulics.** Fourth year, spring term. This term's work includes a study of the principles of hydrostatics and the action of water motors. Preparation required: Third-year mechanics and differential equations. Text-book, Merriman's Treatise on Hydraulics.

33. **Thermodynamics III.** Fourth year, spring term. A continuation of the previous terms' work, including a study of refrigerating machines and a study of Hirn's Analysis as Applied to the Steam-engine. Preparation required: Thermodynamics II. Text-book, Peabody's Thermodynamics of the Steam-engine.

34. **Engineering Design.** Fourth year, spring term. The design of a power plant or factory, based upon the work of the previous terms in thermodynamics and applied mechanics. Preparation required: Machine design II, applied mechanics II, and thermodynamics II.

35. **Engineering Laboratory III.** Fourth year, spring term. A continuation of the previous term's work, including tests on the strength of materials and tests on gas-engines. Preparation required: Engineering laboratory II, applied mechanics II, and thermodynamics II.

36. **Engineering Laboratory IV.** Fourth year, spring term. A course in testing the strength of materials and steam-engines, for electrical-engineering students. Preparation required: Steam engineering and applied mechanics II.



MECHANICS' HALL.

37. **Thesis.** Fourth year, winter and spring terms. Engineering students are required to present for graduation a suitable thesis on some subject relating to their work. It is expected that the work done on the thesis will be equivalent to at least five hours per week during the winter term and ten hours per week during the spring term.

EQUIPMENT.

The shops of the Kansas State Agricultural College are furnished with the best modern machinery and tools for working both wood and iron, and are in operation six days per week throughout the year.

Wood Shop.—This wood-working room is 40x103 feet, contains 220 separate kits of tools, and benches for forty-four students in each class, eight wood lathes, with sixteen sets of turning chisels and other tools, wood planer, circular saw, friezer, power mortising machine, grinders, and tool-room containing all kinds of wood-working tools for general use, together with complete outfit of wheelwright's tools.

Machine-shop.—This room is 40x80 feet, contains twelve fourteen-inch engine-lathes, one twenty-eight-inch by twenty-feet engine-lathe equipped with blocks to raise it to sixty-inch swing, one sixteen-inch combination engine- and turret-lathe, speed-lathe, Gray planer, Hendey-Norton shaper, Brown & Sharpe No. 2 universal milling-machine, Walker universal grinder, special drill-grinder, key-seater, bolt-cutter, pipe-machine, vertical drills, fifty-one-inch vertical turning- and boring-mill, benches and tools for fifty students, and a completely stocked tool-room, equipped with the finest modern tools.

Blacksmith Shop. This room is 40x50 feet, equipped with twenty-four forges fitted with power exhaust. Each forge has anvil and complete set of smithing tools. In addition to the general tools for a fully equipped blacksmith shop, there are also installed here a drill-press, emery-grinders, cold saws, and a number of pieces of special apparatus built by the department.

Iron Foundry.—This room is 40x50, equipped with a two-ton cupola, a one-and-one-half-ton steel crane, core oven, an exceptionally large number of flasks, both wood and iron, ladles, etc. The foundry makes all castings for machine building, together with boiler fronts, grate-bars, and special repair work.

Brass Foundry.—This room is 16x30 feet, with furnace, crucibles, flasks, and a complete equipment for bench and floor molding. The product consists of bearings, friction metal, valves, fittings, etc.

Pipe-fitting Room.—This room is 18x50 feet, containing a motor-driven Jarecki pipe-machine, and is completely equipped with tools used by steam-fitters. Practice in pipe-fitting and steam-fitting is given. This room is also used for storing patterns, of which the College has a large and valuable collection.

Engineering Laboratory.—This room is 35x40 feet, and contains a great variety of apparatus, among which may be specified a 100,000-pound testing-machine, both automatic and autographic; Flather transmission dynamometer, for determining the power required by various machines; an eight-horse-power vertical steam-engine; an eight-by-eight Ingersoll-Sargeant air-compressor; a six-horse-power Sturtevant engine, used as an air motor; a ten-horse power Witte gasoline-engine; complete cement-testing outfit; absorption dynamometers; steam- and gas-engine indicators, gage-testing apparatus, and a variety of special machines for the testing of material; also, thermometers, calorimeters, speed indicators, etc. The very complete boiler- and engine-rooms adjoining the laboratory afford special opportunities for the work relating to steam engineering.

Power Plant.—The boiler-room contains five sixty-horse-power horizontal return-flue boilers, three 100 horse-power boilers, pumps, steam-traps, etc. These boilers are use for the generation of steam, both for power and heating purposes, and are independently connected, that they may be tested individually or in groups. The engine-room is equipped with one 100 horse-power, medium speed engine, directly connected to a 60-K. W. multipolar generator, with marble switchboard and complete apparatus; one fifty-horse-power Ball & Wood engine, belted to bipolar generator, with switchboard; one ten-horse-power Atlas engine; one five-horse-power generator, built in the shops, for testing purposes; one Shipman coal-oil engine, and several small dynamos for testing purposes. In connection with the power plant is a very complete rope-driven installation, especially designed for the department.

Drawing-rooms.—On the second floor of the wood-working department are found the drawing-rooms, photographic rooms, and paint and varnish rooms.

Military Training.

This institution being one of the beneficiaries of the act of Congress of 1862, instruction in military tactics is made compulsory. The course of instruction is made to conform strictly to the provisions of General Orders, No. 94, War Department, Washington, D. C., August 9, 1902.

In compliance with the minimum requirements of that order, the course will be both practical and theoretical and applied as follows:

a.—Practical.

1.—Infantry drill regulations, through the school of the battalion in close and extended order.
2.—Advance and rear guards, and outposts.
3.—Marches.
4.—The ceremonies of battalion review, inspection, parades, guard-mounting, and escort of the colors.
5.—Infantry target practice.
6.—Instruction on first aid to the injured.
7.—A guard mounted five times (weather permitting) in each week of the school year, and the guard shall be practically instructed for one hour in the posting and relief of sentinels and their duties.

b.—Theoretical.

1.—The infantry drill regulations, covered by the practical instruction.
2.—The manual of guard duty.
3.—Small-arms firing regulations, parts I, II, and III.
4.—The Articles of War, with specific reference to articles 4, 8, 15, 20, 21, 22, 23, 24, 32, 38, 39, 40, 42, 44, 46, 47, 50, 55, 57, 61, and 65.
5.—And the following records:

Enlistment and discharge papers, including descriptive lists.
Morning reports.
Field and monthly returns.
Muster-rolls.
Rosters.
Ration returns.
Requisitions.
Property returns.

And a lecture course, as follows:

One lecture on the organization of the United States army.
One lecture on the organization of the volunteers and militia.
One lecture on patrols and outposts.
One lecture on marches.
One lecture on camps and camp hygiene.
Three lectures on lines and bases of operations.
Two lectures on the attack and defense of advance and rear guards and outposts and convoys.

All of the foregoing to be illustrated by historical examples. These lectures are to be made the basis of subsequent recitations and of written examinations.

The national government has supplied the College with 245 cadet rifles and an equal number of sets of infantry accouterments; also two three-inch field guns and carriages. Swords, target supplies and annual issues of ball and blank cartridges are also received from the general government. Each student buys his own suit, to be worn whenever he pleases. The following is a description of the suit: "This suit to consist of regulation blue cap, with College emblem; blue blouse, cut and trimmed in officers' style; gray trousers, trimmed with black mohair braid."

War Department Record. At the close of the year the names of the three cadets most distinguished in military science and tactics are reported to the War Department for insertion in the United States army register, and also to the adjutant general of the state.

ARMORY.

Organization. The cadets are organized into a battalion of four companies and a band. The commissioned officers are chosen from the senior and junior classes, and the non-commissioned from the sophomores. All students in the regular courses below the third year are required to take drill, unless excused for physical disability.

Uniform. The uniform is simple and inexpensive, and all students will be required to present themselves in uniform within ten days after assignment.

Text-books. Each military student will be required to provide himself with the following text-books immediately after assignment: United States Drill Regulations (latest edition), The Manual of Guard Duty (latest edition), Small-arms Firing Regulations (latest edition), Military Science (to be prescribed).

The instruction in keeping records will be from blank books, expected to be provided by the War Department after July 1, 1903. The Articles of War specifically mentioned are among the most important for the young officer to know on first entering the service. The records prescribed for study should be thoroughly understood by all graduating cadets, because they show how the soldier enters and leaves the service, how he is accounted for, paid, fed, clothed, armed, and how his military duties are regulated.

Music.

Recognizing music as a factor in education which is practical and elevating, and believing that the germ of artistic faculty exists in every normal person, the following unique and generous provisions have been made for its introduction into the several courses:

Pupils may take music for a single term or more. A full course, extending over four years, includes theory, notation, singing, voice culture, harmony, composition, instrumentation, and technical drill on one or more instruments. The College pianos and organs (limited in number) are used for daily practice by pupils who take music as an industrial.

Instruction in music is furnished free, under the direction of the professor in charge, to all pupils in the College, as follows:

1. **Singing, Notation, and Theory.** Classes will be organized at such periods as will best accommodate the pupils interested.

2. **Instrumental Music, Musical Theory, and Harmony.** Classes will be organized, for pupils in the regular courses, at such periods as will best accommodate them, under the following conditions:

a. **Industrials.** It may be taken as an industrial by ladies only, in connection with their notation and vocal music, after the required industrials of the first year, and after passing an examination equivalent to two terms in vocal music, in which case one period's daily practice at the College or at home is required.

b. **Extras.** It may be assigned as an extra to students, men or women, who do well in their general course of study, on the same conditions as above, excepting as to practice, when students may furnish their own instruments.

c. **Optional.** All music is optional—is taken at the choice of the student—but after assignment regular attendance is required, as at other classes. Class organization shall be wholly under the control of the professor of music.

d. **Musical Organizations.** Each instrument has a distinct function in the science of tonal expression, and only in their combination are the finest effects in the coloring of the melody, harmony and rhythm procured. This combination is made possible in the musical department by the number of pupils and the variety of instruments studied. All students who are sufficiently advanced to join the College glee club, College orchestra, mandolin, guitar and banjo club, elementary band, or the College band, may become members by assignment.

e. **Public Exercises.** Music for commencement week and other public College exercises is furnished by the musical department, under the direction of the professor in charge, and all students in the department shall be subject to his call to assist in furnishing the same.

COURSES OFFERED.

The Voice. In the study of this instrument, the most natural and universal means of musical expression, notation is taught in connection with the establishment of a pure tone, in which there shall be resonance, volume, flexibility, and expression. The instruction will include the rudiments of music, notation, sight-reading, ear-training, theory, harmony, voice culture, methods of teaching, practice in teaching, and drill in solo, quartet and chorus singing. Texts: Brown's Elementary Charts, Emery's Elements of Harmony, Weitzman's Theory, Randegger's Singing; select studies from Concone, Vaccai, Bordogni, Marchesi, and other standard works.

The Piano. In the study of this instrument, which occupies a place of so much dignity and importance in every musical education, great attention is given to every detail of technique and to the development of a correct touch, which is so necessary in giving intelligent expression to musical thought and feeling. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. The curriculum is chosen from the works of the standard composers, not omitting modern European and American writers, who best represent the modern spirit and progress. The following outline of a course of study, made with reference to the musical value of the selections, as well as to the special necessities of the pupil, may be followed or varied by the professor in charge. Text, selections from the following works or their equivalents: Studies in position and touch—Plaidy, Czerny, Koehler, Mathew's Standard Studies; Mason's Touch and Technic; sonatinas by Clementi; modern pieces. Studies in the development of technique from Heller, Loeschhorn, Lemoine; sonatinas by Kuhlau; Mason's Touch and Technic; Cramer's Studies; inventions by Bach; Kullak's Preparatory Octave School; etudes by Moscheles; sonatas by Mozart; Beethoven; modern pieces; Kullak's Octave School; Tausig's Daily Studies; Bach's Preludes and Fugues; concert pieces by Liszt; Schumann. Memorizing.

The Cabinet and Pedal Organ. The cabinet organ has a field of its own, and should have appropriate treatment, in many respects different from the piano. When properly played it is of much value in church and social circles. It is here taught so as to be preparatory to the piano, the pedal- and pipe-organ. Text, standard schools. Selected studies and pedal studies, chorals, hymns, and recreations suitable to the instrument.

The Violin. Particular attention is given to correct position, intonation, and bowing; also to solo and orchestral playing. Text, selections from the following works or their equivalents: Methods by Wichtl, Henning, and De Beriot; exercises by Danca, Pleyel, Schradick, Kayser, David, and easy solos; etudes of Kreutzer; solos by De Beriot, Leonard, Dancla, Singelee; modern pieces. Memorizing.

Orchestral and Band Instruments. Similar courses of instruction are given on all the more important orchestral and band instruments—string, wood, wind, and brass; also mandolin and guitar. Opportunities are also furnished advanced pupils for orchestral, band, quartet and accompaniment playing. Text, selections from the standard methods; studies and recreations suitable to the instrument.

Musical Theory, Composition, Instrumentation, and History of Music. The aim of these courses is to give the pupil an intelligent conception of music as a science and an art, and to lay a foundation for later studies which he may undertake in the field of artistic performance and of original work in musical composition. The instruction given includes theory, notation, harmony, counterpoint, composition, instrumentation, analysis of form and style, and musical history. Texts: Elson's Theory of Music, Brown's Prismatic Charts, Berlioz's Orchestration, Marx's Composition, Prout's Instrumentation, Mathews's History of Music.

DRILL-ROOM—WOMEN'S GYMNASIUM.

Oratory.

The work of this department is arranged with the special purpose in view of developing all the expressive powers of the student. This is accomplished by training him to think, by emphazing the need of gaining knowledge, and by training him to make that knowledge of benefit both to himself and to others. The greatest educational need of men and women is the ability to use the knowledge that is theirs in an intelligent and effective manner. Every one should be able to converse intelligently, to address a body of fellow citizens extemporaneously, and to fill positions in church and state. We should train for active citizenship. The entire work of this department is based upon the principle that *all expression is the result of thought.* "We must have before we can give. Impression must precede and determine expression." Thinking must precede action. The *aim* of all work in oratory is *naturalness*, and, in order to secure this, nature is studied and her methods adopted.

The course here outlined is arranged in the logical order of the student's needs, and is as thorough and comprehensive as the time will permit. Studies Nos. 1 and 2 are given during two terms, in the second year, in all courses. No. 3 is given throughout the third year in all courses, and No. 4 is given throughout the fourth year in all courses. No. 5 is required of all students having fourth-year assignments. In addition to this regular course, individual assistance will be rendered upon any phase of the work, especially in studies Nos. 3, 4, and 5. For the amount of time required in each course, see "Schedule of Courses of Study," on another page of this catalogue.

1. **Oratory I.** Vocal Expression. In the arrangement of studies vocal expression is regarded as of primary importance, and is placed first because it brings the student to a study of himself and of nature and her processes. Vocal

expression is the manifestation of the action of the mind through the voice. Observations are made of the action of the mind in thinking, the effect of thought upon the voice, and an effort is made to strengthen the thinking powers and to cause the voice to respond more freely to thought, feeling, and emotion. The aim is to stimulate the student, so that expression will be from within outward. Simple, direct and forceful expression, through natural and easy modulations of the voice, is the standard. Definite problems are assigned to each student upon specific points of development. Class book, Praxis of Vocal Expression.

2. **Oratory II.** Extemporaneous Speaking and Debate. It is of the utmost importance that students should be trained as early as possible to think and speak upon their feet. Many there are who show great ability in the delivery of the productions of others, or even their own, after having committed them, but who cannot give even so much as an introductory sentence extemporaneously. Few are the opportunities for delivering a committed speech, but numberless are the occasions that demand the expression of thought extemporaneously. Extemporization requires the most thorough preparation, which, added to the spirit of the occasion, will result in a spontaneous outburst of eloquence that is not possible in the delivery of committed matter. It is placed second in the course only because a student must first learn to think and to reveal thought, before attempting to enlighten or persuade others.

3. **Oratory III.** Principles of Public Delivery. The vocabulary of oratoric delivery and its development. Exercises in vocal and pantomimic training. Problems and special exercises with illustrative discussions. Vocal interpretation of literature. Principles of criticism. Practice in criticism. Platform etiquette. A theoretical and practical study and development of the imagination as the creative instinct. Text-book, Imagination and Dramatic Instinct, part I.

4. **Oratory IV.** Advanced Expression. Principles of education applied to expression. Discussions of the higher forms of literature and expression, and application of principles to special needs of students. Methods of leading orators. Preparation and delivery of orations. Development of the powers of conception, and the ability to express every phase of human experience, as a means of securing ease, simplicity and spontaneity in all forms of speaking. Different forms of dramatic interpretation. The application of the various phases, laws and principles of personal appreciation and interpretation. Assimilation, or the dramatic instinct, is studied for the purpose of developing unity. Text-book, Imagination and Dramatic Instinct, part II.

5. **Oratory V.** Orations. Each senior is required to prepare and deliver an oration upon a subject of his own choosing. All preparation is done under the direction of the professor of oratory. A system of grading upon thought, composition and delivery has been adopted and the work must reach a required standard of perfection. This work is required of *all* students before graduation, regardless of which course they are taking.

Philosophy.

To be able to grapple most advantageously with the serious problems of life, one must have an intimate acquaintance with himself. To be able to become a valuable member of society, he must know how to develop and use his mental powers judiciously. Too many people are inclined to regard their mental activities as a sort of fixed inheritance, with little or no possibility of readjustment. It is the aim of this department to interest the student in a more careful study of the

mental phases of human life, and to aid him in a more definite and systematic knowledge of the meaning of his own concrete experiences.

Course No. 1 below is required of all first-year students, No. 2 is included in the general science course only, and No. 3 in the general science and domestic science courses.

1. **Elementary Psychology.** First year, winter term. This course is intended to give the student (*a*) a general idea of the meaning of psychology, and (*b*) a better method of expending his time and energies in the pursuit of college work. Not less than ten lectures will be given, as follows: (1) Neural basis of mind, (2) perception, (3) imagination, (4) memory, (5) habit, (6) thinking, (7) the emotions, (8) the will, (9) self-confidence, (10) methods of study and work. No text-book used.

2. **Logic.** Third year, winter term. While formal or deductive logic is studied briefly, the greatest emphasis is placed upon the inductive phase of the subject. Special prominence is given to methods of exact observation and experiment and correct principles of classification. The previous researches and experiences of the students are made to illustrate these principles. Some of the ends sought are: (1) To enable the student to think more clearly and to express his thoughts more lucidly; (2) to enable him more readily to detect the erroneous statements of others, whether made by design or through ignorance; (3) to imbue himself more fully with the scientific spirit, which is the guiding principle of human progress to-day; (4) to lead him into habits of systematic, scientific methods of work in whatever vocation he may follow during later life. Text-book, Creighton.

3. **Psychology.** Fourth year, spring term. An effort is made to master the general principles of the subject, the various mental processes being analyzed and explained. Some attention is also given to theories of right and wrong and correct principles of action. Considerable time is given to the discussion of mental poise, self-control, emotional expression, the influence of the mind on the body, and the like. Special effort is made to enable the student to get the psychologic point of view, to the end that he may obtain a better understanding of himself and of human nature in general. He will then think of others in terms of mental conduct rather than in terms of physical conduct; and, having been made more fully aware of the obstacles that confront every earnest soul, he will become more sympathetic. Finally, as a result of systematic mental discipline, the student may expect to meet with greater success in his chosen vocation. Some simple experiments are performed, and each member of the class is given a topic for special research. Text-book, James.

Physical Training for Women.

The maintenance of a vigorous constitution throughout a young woman's college life is of vital importance. Strength and vigor of brain activity depend upon bodily health and strength. Development, both mental and physical, each to attain its purpose, should go hand in hand. That this perfect development may be realized, a gymnasium for women, well equipped with apparatus, baths, lockers, etc., has been provided, and a well-regulated system of physical training is successfully operated.

The Swedish system of educational gymnastics has been adopted as the basis of the class work, and medical and corrective exercises are given to such as need them. The object of the work is to promote health, strength and symmetry of body, and also to correct physical defects.

CALISTHENIC SUIT.

Daily classes are held in light gymnastics—free standing work, marching, fancy steps, drills with bells, clubs, and wands, with musical accompaniment; heavy gymnastics, including chest weights, horse, parallel bars, flying rings, ladder, stall bars, etc.; gymnastic games.

All young women of the College have access to the privileges of the gymnasium, and all below the third year are required to take the work, except such as are found physically unable to engage in it.

Before entering upon the work a physical examination is made by the director of the gymnasium. The examination includes measurements of physical proportions, and takes note of the conditions of the heart and lungs. From this examination an anthropometric chart is platted, showing size, strength, and development, and defects in comparison with the normal standard. At the close of

the College year a second examination is made and measurements taken, and comparison is made, to show improvement.

A uniform suit has been adopted, and all the girls taking gymnasium work are required to provide themseives with a suit. This should be done before entering school. The suit consists of a blouse waist and bloomers (see cut), and *must* be made in uniform style and color, and of the same kind of cloth. The pattern for the suit may be obtained by sending twenty-five cents and bust measure to the director of physical training. Samples of cloth will be sent on application. Gymnasium shoes may be purchased at any one of the three stores in Manhattan at prices ranging from 50 cents to $1.35. The entire suit, including shoes, need not cost more than three dollars. Those who are unable to provide themselves with suits before entering school may hire them made in Manhattan at a cost of $1.50.

Physics and Electrical Engineering.

In the courses following instruction is given by text-books, lectures, and laboratory work. Attention will be called to the general applications of the principles learned. In all courses special lines of reading will be encouraged, and investigation and experimentation, so far as the equipment of the department will permit.

In all the general courses it is the purpose of the department to thoroughly ground the students in the fundamental principles of the science. In the technical courses it is the aim to give the student instruction and training along more specialized lines, thus fitting him for his chosen field of work.

Of the studies described, Nos. 1, 4 and 5 are required in the agriculture, domestic science and general science courses; Nos. 1, 2, 3, 8, and 9, in the mechanical engineering course; and all except Nos. 4, 5, 8 and 9 in the electrical engineering course.

1. **Elementary Physics.** First year, spring term. The work is intended to give the student a general view of the subject, with such laws and principles as will be useful in scientific study, and includes the most important principles of mechanics, heat, sound, light, and electricity. Text-book, Henderson and Woodhull.

Laboratory.—In this work the importance of accurate observation and conclusions is emphasized. In the laboratory the exercises will consist of measurements with calipers, balances, spherometers, micrometer-microscope, pendulum, and other instruments of like nature. Careful records of experimental work are required.

2. **Physics.** Third year, fall term. Open to electrical and mechanical students. During this term's work the general principles of energy, heat, sound and light will be treated, and the most-approved methods for the measurement of each will be discussed and illustrated. The derivation of laws and formulæ, including the solution of problems involving these laws, will be required. Text-book, Watson.

Laboratory.—Experimental work with all the principal instruments used in exact physical measurements will be given.

3. **Physics.** Third year, winter term. Development of the fundamental laws for the measurement of current and resistance. Discussion of the principal methods of generating and transferring electrical energy. How to make, use and care for cells. The relation of electricity and magnetism. Solution of problems in which both practical and absolute systems of measurement are used. Text-book, Watson.

mental physics to any who have had sufficient work to enable them to take up the more advanced problems in experimental work:

Sound.—Velocity of sound in gases and solids. Effects of resonance and interference. Laws of vibrations of strings.

Light.—Photometry, focal lengths, spectrometry, measurements of wave lengths by Rowland grating, calibration of prism, optical bench, interferometer. Study of bright-line and absorption spectra; polarimetry.

Heat.—Thermometry. Comparison and variation of delicate thermometers. Measurement of high temperatures by use of electrical resistance. Calorimetry. Radiation and conduction of heat. Coefficient of expansion.

Electricity.—This work is offered to students who have had courses 2, 3, and 6, or the equivalent, and consists of advanced work in electrical measurements, special tests of electrical machines, etc.

Preparatory Department.

Inasmuch as many students seek admission to the College with inadequate preparation in one or more of the subjects required for entrance, it has been found necessary to establish a preparatory department, in which such deficiencies

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common divisor, lowest common multiple, and fractions, equations to the page of the text, Wells's New Higher Algebra.

3. **Algebra II.** Simple equations, involution, evolution, theory of exponents, and radicals as far as the subject of quadratic equations.

4. **Bookkeeping.** This is not an extended course, but sufficient instruction is given to enable the individual to open and close accounts in ordinary business transactions. Text, Stevenson.

5. **Free-hand Drawing.** Exercises with forms involving the right line and the arc, illustrating the effects of geometrical arrangement, repetition, alternation, symmetry, proportion, harmony, and contrast. After a few lessons in geometrical lines, the conventional surface ornament is taken up, and more subtle curvatures and complex forms are introduced.

6. **English Grammar.** The aim is to lay a good foundation for the further study of English. Recognizing the fact that grammatical drill develops in students logical habits of thought, besides giving them greater command of language, special attention is given to the analysis and construction of sentences and to the principles of elementary composition. Two classes are formed each term, the B class completing the work in two terms; the A class in one term. Text, Longmans.

7. **English Composition.** One term. The work is based on Smith and Thomas's Composition and Rhetoric. The text is completed to chapter XIII, with the addition of chapter XIX and the appendix, special attention being given to the study of usage and diction. The object of the work of this term is to give

the College year a second examination is made and measurements taken, and comparison is made, to show improvement.

A uniform suit has been adopted, and all the girls taking gymnasium work are required to provide themseives with a suit. This should be done before entering school. The suit consists of a blouse waist and bloomers (see cut), and *must* be made in uniform style and color, and of the same kind of cloth. The pattern for the suit may be obtained by sending twenty-five cents and bust measure to the director of physical training. Samples of cloth will be sent on application. Gymnasium shoes may be purchased at any one of the three stores in Manhattan at prices ranging from 50 cents to $1.35. The entire suit, including shoes, need not cost more than three dollars. Those who are unable to provide themselves with suits before entering school may hire them made in Manhattan at a cost of $1.50.

Physics and Electrical Engineering.

In the courses following instruction is given by text-books, lectures, and laboratory work. Attention will be called to the general applications of the principles learned. In all courses special lines of reading will be encouraged, and investigation and experimentation, so far as the equipment of the department will

[illegible] The work is intended to give the student a general view of the subject, with such laws and principles as will be useful in scientific study, and includes the most important principles of mechanics, heat, sound, light, and electricity. Text-book, Henderson and Woodhull.

Laboratory.—In this work the importance of accurate observation and conclusions is emphasized. In the laboratory the exercises will consist of measurements with calipers, balances, spherometers, micrometer-microscope, pendulum, and other instruments of like nature. Careful records of experimental work are required.

2. Physics. Third year, fall term. Open to electrical and mechanical students. During this term's work the general principles of energy, heat, sound and light will be treated, and the most-approved methods for the measurement of each will be discussed and illustrated. The derivation of laws and formulæ, including the solution of problems involving these laws, will be required. Text-book, Watson.

Laboratory.—Experimental work with all the principal instruments used in exact physical measurements will be given.

3. Physics. Third year, winter term. Development of the fundamental laws for the measurement of current and resistance. Discussion of the principal methods of generating and transferring electrical energy. How to make, use and care for cells. The relation of electricity and magnetism. Solution of problems in which both practical and absolute systems of measurement are used. Text-book, Watson.

mental physics to any who have had sufficient work to enable them to take up the more advanced problems in experimental work:

Sound.—Velocity of sound in gases and solids. Effects of resonance and interference. Laws of vibrations of strings.

Light.—Photometry, focal lengths, spectrometry, measurements of wave lengths by Rowland grating, calibration of prism, optical bench, interferometer. Study of bright-line and absorption spectra; polarimetry.

Heat.—Thermometry. Comparison and variation of delicate thermometers. Measurement of high temperatures by use of electrical resistance. Calorimetry. Radiation and conduction of heat. Coefficient of expansion.

Electricity.—This work is offered to students who have had courses 2, 3, and 6, or the equivalent, and consists of advanced work in electrical measurements, special tests of electrical machines, etc.

Preparatory Department.

Inasmuch as many students seek admission to the College with inadequate preparation in one or more of the subjects required for entrance, it has been found necessary to establish a preparatory department, in which such deficiencies can be remedied. The work in this department is under the direction of a principal, with whom are associated two assistants and a number of student assistants. Some of the preparatory classes are also conducted by the heads of the College departments. Instruction is given in all studies required for admission to the College. See "Terms of Admission."

1. **Arithmetic.** Instruction is given in the principles that underlie the various classes of problems, thus teaching the student to rely upon himself, not upon rules. Text, state book.

2. **Algebra I.** This includes the fundamental operations, factoring, highest common divisor, lowest common multiple, and fractions, equivalent to 119 pages of the text, Wells's New Higher Algebra.

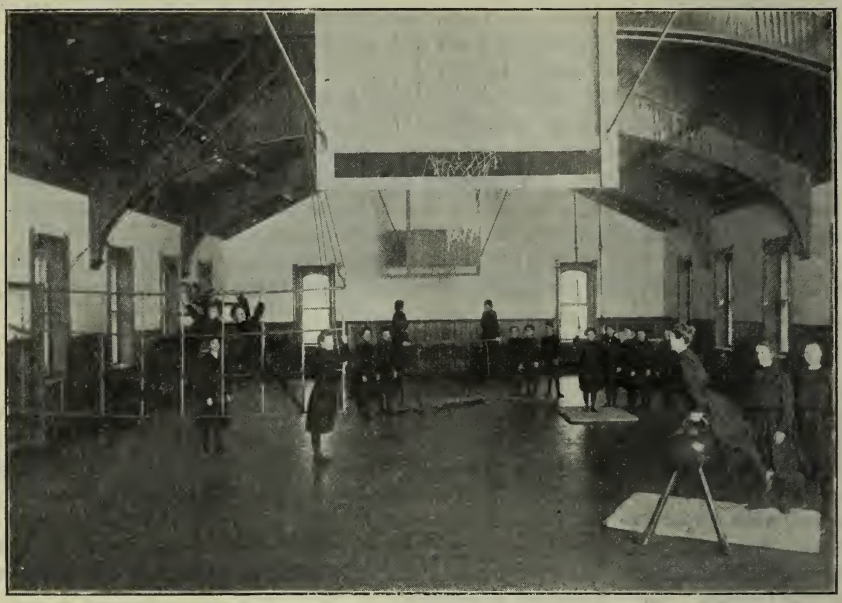
3. **Algebra II.** Simple equations, involution, evolution, theory of exponents, and radicals as far as the subject of quadratic equations.

4. **Bookkeeping.** This is not an extended course, but sufficient instruction is given to enable the individual to open and close accounts in ordinary business transactions. Text, Stevenson.

5. **Free-hand Drawing.** Exercises with forms involving the right line and the arc, illustrating the effects of geometrical arrangement, repetition, alternation, symmetry, proportion, harmony, and contrast. After a few lessons in geometrical lines, the conventional surface ornament is taken up, and more subtle curvatures and complex forms are introduced.

6. **English Grammar.** The aim is to lay a good foundation for the further study of English. Recognizing the fact that grammatical drill develops in students logical habits of thought, besides giving them greater command of language, special attention is given to the analysis and construction of sentences and to the principles of elementary composition. Two classes are formed each term, the B class completing the work in two terms; the A class in one term. Text, Longmans.

7. **English Composition.** One term. The work is based on Smith and Thomas's Composition and Rhetoric. The text is completed to chapter XIII, with the addition of chapter XIX and the appendix, special attention being given to the study of usage and diction. The object of the work of this term is to give



DRILL-ROOM—WOMEN'S GYMNASIUM.

the student a knowledge of the elementary principles of composition, to improve his vocabulary, and to help him overcome the fear of expressing himself in writing. To this end he is encouraged to choose subjects that spring from his own experience or observation, and is required to present one theme each week, which, after being read before the class, receives corrections from the instructor in charge.

8. **English Readings.** As a prerequisite to admission to the College classes in English, a careful study of a number of standard productions of first-class interest and easy style is required. Sketches of authors, both oral and written, character sketches, abstracts and analyses of every production are required. As these productions are read and discussed in class, opportunity is afforded for considerable valuable training in pronunciation and effective reading.

Class Readings—Benjamin Franklin's Autobiography, Irving's Sketch Book, Shakspere's Julius Cæsar, Goldsmith's Deserted Village, Arnold's Sohrob and Rustum, Burns's Representative Poems, Scott's Lady of the Lake, Longfellow's Evangeline.

9. **United States History.** The leading facts, causes and sequences showing the growth of our country and national history are studied, with a view to develop true patriotism. Text, McLaughlin.

10. **Physiology.** This is elementary work, intended to prepare students for the more advanced work given in second year of the agriculture, domestic science and general science courses. As far as possible, models, skeletons and dissecting material is made use of in the classroom. Martin's Elementary Physiology is used as a text.

11. **Geography.** Because of recent history, special attention is paid to the geography of the United States, its possessions, products, resources, methods of transportation, etc. Text, state book.

12. *Other Branches of Study.*—Instruction is also given in spelling, reading, and writing.

Printing Department.

The printing department, in the main building, occupies seven large rooms, viz.: Superintendent's office, composing-room, pressroom, folding room or bindery, stock-room, mailing-room, and storeroom, all well lighted, amply ventilated, and heated by steam.

1. **Instruction.** The lessons embraced may be briefly summarized under these suggestive topics: The elements of news, book and job composition and imposition; proof-reading and correcting; plain and color presswork; adaptation of various grades of inks and papers; newspaper and magazine folding; mailing; tableting of stationery, and pamphlet stitching and stapling. The instruction is of that character in which individual advancement is always taken into account, and opportunity is extended for individual growth in the knowledge of those principles which are of practical utility in the every-day work of a printing-office. Occasion for the gaining of experience and acquirement of skill is supplied by the weekly publication of the *Industrialist*, the *Student's Herald*, and the semiquarterly *Jayhawker*—all in magazine form; the execution of the wide range of job printing needed to furnish the various college departments with blanks, lesson outlines, and stationery, and the college societies with programs, notices, etc.—thus furnishing a greater range of work for instruction than is ordinarily found in the average printing-office.

2. **Equipment.** Thirty pairs of cases; large fonts of six-point, eight-point and ten-point Roman type and italics; a good assortment of wood and metal job type and brass rule; a Babcock two-revolution, four roller "Optimus," quarto-medium and eighth-medium Gordon job presses, and a Monitor wire stitcher, all run by electricity; mitering, rule-curving and stapling machines; paper-cutter, cabinets, stands, imposing-stones, etc.

Veterinary Science, Physiology, and Bacteriology.

The course in veterinary science is not intended for the training of veterinarians, but to meet the needs of farmers and stockmen in the line of practical nursing, minor surgery, the use of domestic remedies and a general knowledge of diseases of animals and how they can be prevented.

In physiology, it is the aim to give a thorough knowledge of the structure and functions of the human body and a clear understanding of the laws which are essential to its healthy development and preservation. So far as practical, this course is preparatory to work in veterinary science and zoology.

In bacteriology, the student is given a thorough and practical knowledge of bacteria, those that are beneficial as well as those that are injurious, and the various methods by which they can be controlled.

No. 1 is required of all young men; Nos. 2 and 3 are required in the agriculture, domestic science and general science courses; Nos. 4, 5 and 6 are required in the agriculture course.

1. **Hygiene.** First year, fall term. One lecture a week on personal, public and military hygiene and first aid to the injured.

"STUDENTS' HERALD" STAFF.

2. **Physiology.** Second year, winter or spring term. Advanced course in human anatomy and physiology; the gross and microscopic structure of the various tissues and organs of the body and their functions; the various changes, physical and chemical, associated with nutrition, and the conditions that favor the healthy development of the body. Martin's Human Body is used as a text-book. This is supplemented by lectures and laboratory work. This must be preceded by elementary physiology, chemistry I, and elementary physics.

3. **Bacteriology.** Third year, spring term; or fourth year, fall term. These courses consist of the morphology, classification and physiology of bacteria; relation of external condititions to bacterial development; disinfectants and disinfecting; bacteriological technique, preparation of culture media, staining, isolating and identifying bacteria; general fermentation, putrefaction, and decay; bacterial action on foods, nitrification, ptomains, toxins, and other bacterial products; hygiene of infective diseases; the preparation and use of antitoxins and vaccines.

The students of all courses are required to take laboratory work, in which they study cultural and microscopical features; the staining of bacteria and preparation of culture media; thus the student becomes perfectly familiar with bacteriological apparatus. Must be preceded by advanced physiology and zoology. Lectures and laboratory work.

4. **Hygiene of Farm Animals.** Third year, fall term, two and one-half hours per week. Breeding and raising of healthy animals; causes of disease and how prevented; disinfection, quarantine, and vaccination; hygienic quarters, food and methods of feeding; exercise, water, injurious and poisonous foods, parasitic diseases and treatment. Must be preceded by chemistry and advanced physiology.

5. **Veterinary Science I.** Fourth year, fall term. Comparative anatomy of domestic animals, with special reference to disease, conformation and unsoundness; general symptoms of disease; common medicines, their action, doses and methods of giving; wounds and their treatment; surgery. Must be preceded by chemistry, advanced physiology, and hygiene of farm animals.

6. **Veterinary Science II.** Fourth year, winter term. Diseases of farm animals—causes, symptoms, and treatment, special attention being given hygienic nursing and the use of domestic remedies; judging horses as to conformation and soundness. This is intended to meet the practical needs of farmers and stockmen. This must be preceded by physiology, chemistry, hygiene of farm animals, and veterinary anatomy.

Advanced work in human and comparative physiology, bacteriology and veterinary science is offered to students who are qualified. With this advanced work, opportunity for research work, theoretical and practical, will be offered.

MEANS OF ILLUSTRATION.

In addition to the stock upon the College farm, the veterinary museum contains Azoux models of man and horse which are dissectible; also, apparatus, instruments, charts, models, and an excellent collection of parasites of domestic animals. There is also a large collection of anatomic specimens, showing healthy and diseased structures. The bacteriological laboratory is well equipped with microscopes and apparatus for bacteriological work, both elementary and advanced.

The Short Courses.

There are large numbers of young people who from lack of means or time are unable to take an extended course of study, but whose usefulness in the world would be much increased by a little special training. Their earning capacity in the household or on the farm is far from what it might be, and they are thus handicapped in the struggle for a livelihood. To bring to this large portion of the "industrial classes," even in small measure, the "liberal and practical education" provided for by the organic act, the College has established certain short courses of study, with practice.

The teaching in these courses, while no whit less accurate than in the others, is upon a different plane. Taking students without scientific or mathematical training, the instruction must be more largely a giving of facts, without an elaboration of the underlying principles which the regular courses afford. The work is intensely practical. Studying such texts as any bright young man or woman can understand, receiving lectures of the same type, and putting into daily practice through industrial exercises the facts and principles learned in the classroom, the student cannot but be greatly benefited. It is hoped, too, that in many cases young people who had thought that they could not afford a four-year course will, by this taste of the advantages and pleasures of an education, be led into the regular courses.

These courses are put at the seasons of the year which seem likely to accommodate the most students, those for young men being given in the winter term, when farm work is more slack, and the young women's course being in the fall, Four such courses are now offered: A dairy course of one winter term; a domestic science course of two fall terms; farmers' course of two winter terms, and farm dairy course of one winter term.

REQUIREMENTS FOR ADMISSION.

Persons at least eighteen years of age and of good moral character are admitted to these courses as follows:

Persons between the ages of eighteen and twenty-one will be admitted upon presentation of common-school diploma, grammar-school certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading, writing, spelling, arithmetic, grammar, geography, physiology, and United States history. Persons over twenty-one will be admitted without examination, but should have sufficient education to enable them to understand the simple text-books used, and to handle readily problems in common and decimal fractions and percentage. They will be required to attend strictly and constantly to their duties, or leave. They have the same free use of the College library that other students have. Owing to the peculiar nature of the work and to the slight degree of preparation which it assumes, *students are required to be present at the very beginning of the course, and those applying later will not be admitted.*

The short courses are in no sense equivalent to the long courses, and no one should take a short course who can take a whole or even a part of one of the

long courses. All of the common-school branches are taught each term; all of the first-year subjects, except elementary botany, which is not taught during the winter term, and nearly all of the second-year studies are taught each term; so that it is possible for one to get nearly all subjects of the first two years by attending during the winter terms only.

Domestic Science Short Course.

First Year, Fall Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Lectures and Practice in Cooking	15
Sewing	15
Drawing	5

Second Year, Fall Term, Twelve Weeks.

Lectures and Practice in Cooking	8
Home Nursing	2
Physiology and Hygiene	5
Vegetable-gardening and Floriculture	5
Dressmaking	10

First Year, Fall Term, Twelve Weeks.

Lectures and Practice in Cooking. The study of stoves, stove construction, management and fuels are the first topics considered, followed by experiments illustrating the effect of heat upon starch and proteid. The principles are then applied to the cookery of cereals, vegetables, beverages, breads, meats, soups, and simple cake mixtures and puddings. During the term lectures are given by the departments of chemistry and physics illustrating the application of a few fundamental scientific principles to cookery. At stated intervals lectures are also given on home sanitation and household accounts.

Sewing. Pupil makes a model book covering the full course in hand sewing, and consisting of basting, gathering, darning, patching, etc. Machine practice, drafting, cutting and making underskirt and drawers; drafting, fitting and making dress without lining; cutting and making corset cover and night-dress. Materials for the model work will be furnished by the College. Each pupil will furnish her own material for the garments, but if sufficient proficiency is shown in making the first garment, pupils may be allowed to take orders for the others.

Drawing. The work in drawing is especially adapted to the needs of this class of students; it will consist of free-hand and geometrical drawing.

Second Year, Fall Term, Twelve Weeks.

Lectures and Practice in Cooking. Canning, preserving, salads, cakes, pastries, desserts, the planning and serving of meals and invalid cooking are topics considered, accompanied by lectures from the departments of chemistry and physics.

Home Nursing. This implies simple suggestions for the sick-room and its furnishings, and means of adding to the comfort of the sick.

Physiology and Hygiene. Physiology and hygiene of the human body, laws of health, and care of the sick.

Vegetable-gardening and Floriculture. The first half of the term is devoted to vegetable-growing. Subjects treated include the raising of vegetables for home and for market, with location, soils, manures, tools, irrigation, etc., best suited for crops grown in kitchen- and market-gardens; the construction and manipulation of hotbeds, cold-frames, and winter gardens; the growing of early and late crops, their special treatment, methods of cultivation, planting, trans-

planting, harvesting, and marketing; a study of varieties suitable to local conditions; and the origin, nature and methods of improvement of vegetables. The last half of the term is devoted to floriculture. Lectures in the classroom are supplemented by practical exercices in the greenhouses and gardens, treating of the propagation and culture of flowers, including the treatment of seeds, cuttings, mixing of soils, potting, repotting, watering, cut flowers, packing, and the many operations that attend amateur and commercial flower-gardening.

Dressmaking. Pupil will be taught the use of a dress-cutting system, cutting, fitting and making woolen dress. Pupil must furnish her own material, and cut and make a dress for herself.

Farmers' Short Course.

First Year, Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Horticulture	5
Carpentry	5

Second Year, Winter Term, Twelve Weeks.

Botany	5
Elementary Physics	5
Farm Mechanics and Management	5
Diseases of Farm Animals	5
Grain Judging	5
Blacksmithing or *Traction-engines*	5

FIRST YEAR.

Crop Production. A study of the soil—its formation, types or classes, composition, characteristics, uses, physical characters, texture, purposes and problems of tillage, conserving soil moisture, warming, ventilating and draining the soil. The implements of tillage, principles involved in their construction and use. A study of the plant—its relation to soil and climate; its life, growth and propagation; its root system, principles of seed selection, preparation of seed-bed, methods of cultivation, etc. The fertility of the soil, tillage, manures, fertilizers, and rotation of crops. A study of crops by classes and varieties, as grains, grasses, corn, forage, silage, soiling and root crops; practical methods of culture—saving, feeding, and marketing. Text-book, Bailey's Principles of Agriculture.

Feeds and Feeding. The properties of feed stuffs, and their combination to secure good returns at least cost with products having the desired qualities; effect of feeds on quality of products; construction of farm buildings and appliances to secure the best returns from feed and for saving labor; a study of the feeding on the College farm. Text-book, Henry's Feeds and Feeding.

Breeds of Live Stock. A study of the market types of live stock; history and characteristics and adaptibility of the breeds of live stock; selection and judging of live stock according to the official standards; forms as an index to qualities; practice in tracing out pedigrees. Text-books, Shaw's Breeds of Live Stock, Craig's Stock Judging.

Stock Judging. Practice work. Practice in judging chickens, beef cattle, dairy cattle, hogs, horses and sheep according to official standards.

Horticulture. General principles underlying plant growth; structure and functions of the various parts of the plants; nutrition, formation of seeds, etc.;

propagation by seedage, cuttage, graftage, and layerage; environment, including the effects of temperature, light, food- and water-supply; possibilities of improvement by cultivation, training, and selection. Text-book, Goff's Principles of Plant Culture.

Carpentry. Elementary woodwork in joinery and construction, followed by general woodwork and carpentry; care and use of farm machinery; the building of frame structures, such as stables, piggeries, poultry-houses, ice-houses, and farm creameries, will be given, both by lectures and by practical work.

SECOND YEAR.

Botany. The laws of plant growth which have a direct bearing upon the raising of grasses, grains, clovers, forage-plants, and weeds; a study of the common fungi that affect cultivated plants; seed-testing; practical methods of farm seed-breeding.

Elementary Physics. This course is designed to give the student a knowledge of the fundamental principles upon which the various physical phenomena depend. The course does not provide laboratory practice. Numerous class demonstrations illustrate the various subjects of mechanics, hydrostatics, heat, light, sound, etc.

Farm Mechanics and Farm Management. The first half of the term will be devoted to rural engineering and farm machinery, and will include laying out of the farm, as regards the selecting of building sites, location of farm buildings, division of the farm into fields, and plans for crop rotation; the construction of buildings and works as to principles of construction, plans, specifications, and estimates of the cost of farm buildings, and the water-supply, sewerage, drainage, roads, fences, etc.

Several lectures will be devoted to the elements of machines, disclosing the principles involved in the use of the lever, evener, wheel and axle, pulley, inclined plane, screw, and wedge. The several classes of farm machinery will be taken up in their order and studied as to the principles of construction and use of each machine, and attention will be given to the operation, care and repairing of farm machinery, and to the building of machinery sheds.

During the latter half of the term, instruction and practice work will be given in keeping farm accounts, and in the application of business methods to farm operations. Economic questions relating to the employment and management of farm help, outlay for farm equipment, buildings, and improvements, the buying of machinery and marketing of crops will receive attention. Some instruction will be given in simple questions of rural law, relating to property, deeds, leases, contracts, water rights, line fences, notes, bills of sale, mortgages, interest, taxes, etc. Text-book, Robert's Farmers' Business Handbook.

Diseases of Farm Animals. The common ailments of farm animals are discussed, their causes and symptoms explained, and preventives and remedies suggested. Inoculation against blackleg will be performed by the student in this course.

Grain Judging. This will be a continuation of the study of crop production, and will consist mainly of work in the judging-room, in scoring corn and the common cereals according to inspectors' and buyers' standards or according to recognized standards of perfection. Lectures and quizzes will be given, explaining the work in the judging-room. A special study will be made of corn in the selection of seed ears. Very few farmers will select a "good" ear of corn before they have been carefully instructed and trained to note defects and vital points. It is necessary to know the characteristics of a breed and its recognized standard

of perfection before one can intelligently select breeding animals. This is true also of a variety of corn or wheat, and the improved qualities of higher protein, greater vitality and larger productiveness which may be bred into corn by careful and intelligent selection should greatly increase the value of this crop to the farmer.

Blacksmithing. Forging and welding, construction of singletree clips, wagon ironing, clevises, horseshoes, sharpening and tempering plows and tools, general repair work. Advanced work is also offered in the care and management of boilers and engines. If the student desires, he can make a forge and set of blacksmith tools to take home with him, paying only for the iron used.

Farm Dairy Course.

Winter Term, Twelve Weeks.

Figures following subjects indicate hours per weeks.

Dairying	5
Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Carpentry	5
Dairy Practice	5

Dairying. Milk—its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns, and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory-cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may test of the work of the different makes of separators, churns, etc.

The remainder of this course is the same as the first year of the farmer's short course.

Dairy Course.

Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Dairying	5
Feeds and Feeding	5
Diseases of Dairy Animals	2½
Bookkeeping	2½
Butter- and Cheese-making	5
Dairy Practice	10
Boiler and Engine	5

Dairying. Milk—its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Feeds and Feeding. Properties of common feed stuffs; their effect on the character and yield of milk and butter; adaptation and combination of feeds to meet the needs of dairy cows; effect of feed on quality of product; preparation of feeds and methods of feeding; compounding of dairy rations to secure the best

yield at least cost. Study of the feeding of the College dairy herd; the dairy farm and care and management of dairy herd. Text-book, Henry's Feeds and Feeding.

Diseases of Dairy Animals. The common ailments of calves and dairy cows are discussed and their causes and symptoms explained, remedies and preventives suggested, all from a practical farmer's standpoint. During the dairy school the College herd will be tested with tuberculin and the students taught how to make the test.

Bookkeeping. Practice in bookkeeping that will enable the student to understand the underlying principles, followed by training in keeping books for farm, dairy and creamery accounts.

Butter- and Cheese-making. The handling of the milk for the market and for butter-making, including milking, straining, aerating, cooling, preserving, and shipping; testing; creaming of milk by the separator; cream-ripening and butter-making. Construction and management of skimming stations and creameries; methods of handling farm-separator cream; methods of dealing with patrons. The handling of milk for cheese-making; contamination, aeration, enzymes, rennet, making of cheddar cheese, cutting and heating curd, drawing whey, dripping and milling the curd, salting and pressing the curd, curing and packing the finished cheese, construction of cheese factories. Swiss, limburger, edam and cottage cheese. Test-books: Decker's Cheese-making, Wing's Milk and its Products, Farrington and Woll's Testing Milk and its Products. Lectures.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. Students may choose either creamery, butter-making, cheese-making, or private dairying. Thorough instruction and practice will be given in all three of these lines. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory-cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may make test of the work of the different makes of separators, churns, etc.

Boilers and Engines. Lectures and practice in the firing of boilers, care and running of engines, pumps, etc.; practice in shops.

Apprentice Courses.

Mechanical Department.

Many who are unable to take the four-year engineering course and who wish to learn a trade will find in the apprentice courses opportunities to obtain practical skill in one of the following trades: (*a*) Carpentry, (*b*) blacksmithing, (*c*) foundry, or (*d*) machine-shop practice.

In the apprentice courses the advantages of the shops are offered to a limited number of young men who cannot enter regularly in the College classes. Since instruction, rather than money-making, is the object of these courses, it can be readily seen that the apprentice work, under skilled instructors, offers many advantages over the ordinary trade apprenticeship. The number that can be accommodated for the coming year is estimated at thirty-two, and the work given is of the most practical character. Apprentices are taken in the shops in the order of their application. A short course in mechanical drawing is given in connection with the apprenticeships in this department. This course is designed to enable the young men to read drawings and blue-prints readily. It is not expected that it will give them the skill necessary for them to become draughtsmen. The drawing is optional and does not count toward the completion of the courses.

Requirements for Admission.

Persons at least eighteen years of age and of good moral character are admitted, as follows:

Persons between the ages of eighteen and twenty-one will be admitted upon presentation of common-school diploma, grammar-school certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading, writing, spelling, arithmetic, grammar, physiology, and United States history. Persons over twenty-one will be admitted without examination. Their taking one of the regular four-year courses must be obviously impracticable; must observe College regulations; must agree to work at least thirty hours per week in the shops, and must remain in the shops for a minimum period of eighty weeks. No charge of any kind is made, nor is any pay given to apprentices. All apprentices are taken on one month's trial, that those not naturally suited for such work may be relieved of the necessity of remaining the full period. Graduates of these courses are given a certificate showing proficiency in line of work pursued.

Heat and Power Department.

A course in boiler and engine attendance is given in this department. It is based on the same lines as those mentioned above, the requirements for admission being the same.

Printing Department.

Persons may enter the printing department under the same requirements as above. The work consists of composition, proof-reading, press- and job-work.

Young Men's Christian Association.

The Young Men's Christian Association now holds an important place in the college and university life of our country. With a membership of 48,000, it easily ranks as the largest student organization in the college world. To the association more than to any other human agency must be given the credit of the marked change in the attitude of college men toward Christianity. A few years ago there was a feeling that a Christian was a weak and effeminate sort of a being—a harmless freak, without force of character, and a species to be carefully avoided by the manly, athletic student.

To-day the Christian men of the association lead its activities, captain football, baseball and track teams, win debates, oratorical contests and highest honors in the classroom. Now Christian men comprise fifty-two per cent. of the student body—a percentage six or seven times as high as in the country in general.

Our own association is trying to keep in line with the associations in other colleges by standing for clean Christian living. It aims to help those young men to whom the strong temptations of student life appeal with great force. The Y. M. C. A. seeks to train and develop its members in organized Christian effort, so that their lives may be placed to the best advantage not only in college but in the community where they live after graduation.

To the student entering college for the first time the association is especially helpful. He is furnished with a handbook of useful information, met at the trains, assisted to find a boarding and rooming place, given a reception, and in-

Y. M. C. A. CABINET.

vited to associate his efforts with the men who wish to be his friends. Headquarters are maintained, with reading- and game-room. Here he is a welcome guest. The association offers to him, as to the old student, the opportunity to join a mission-study class and one of the several Bible-study classes. A regular, systematic course in Bible study is provided. This course is arranged for daily private study, with a weekly class-meeting where the students discuss the work of the past week. Prospective students are invited to write to the general secretary in regard to the association or for information about the College not contained in the catalogue.

Young Women's Christian Association.

The Young Women's Christian Association, with a membership of 156, is made up of the strongest young women in College. It is heartily supported by the Faculty and Regents, and exerts a most vigorous and healthful Christian influence throughout the College. It is based upon the fundamental principles of Christianity and seeks to create a sentiment for all that is pure and true and right. Since the object of the association is the development of Christian character, it seeks to organize and unite all the Christian forces for practical work. It strives to put into daily practice the right theories of living.

When a young lady gets off the train at Manhattan she is met by a committee from the Young Women's Christian Association, who will assist her in finding a suitable boarding place. The association seeks in every way possible to aid the new student. Guides are supplied to show her to her respective classrooms for the first time. The idea of the association is to make each new girl feel at home in the College, and know that when she meets a Y. W. C. A. girl she meets a friend who is interested in her welfare.

Some of the most important features of the association:

1. The fall campaign committee, who seek to start new girls in the right direction.
2. The lookout committee, who care for those who may be ill or need special care.
3. Weekly devotional meetings, which are a source of inspiration to higher ideals.
4. Prayer studies, Bible-study and mission-study classes, which broaden the view of Christian work.
5. Opportunity for social development through socials or receptions given each month by the association.
6. Opportunity for doing active Christian work among college girls.
7. A general secretary, the employed officer of the association, and the advisory committee, chosen from the Faculty or other Christian women who are interested in the work, sustain a general advisory relation to the officers of the association and assist them in carrying out the plans of the work.

All young women contemplating attending the College are invited to write to the general secretary of the association for information concerning the College or Y. W. C. A. work.

General Information.

Terms of Admission.

Persons over fourteen years of age will be admitted in any of the following ways:

1. Kansas teacher's certificate, provided no subject is below seventy per cent.

2. Diploma received on completion of a county course of study which has been approved by the Faculty.

3. Certificate of passing the grammar grade or diploma from the high school of any city or county with a course of study approved by the Faculty.

4. Pass a satisfactory examination in reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology.

Persons over eighteen years of age will be admitted to the preparatory classes if unable to pass the common-school branches.

Full admission to the first year, in addition to the common-school branches—reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology—requires bookkeeping, English composition, English readings, algebra to quadratic equations, and free-hand drawing. It is quite possible for a good student who enters somewhat behind to make up his deficiency in a year or two and graduate in four years.

All of the preparatory studies are taught each term; and all of the first-year studies except botany, which is not taught during the winter term, and nearly all of the second-year subjects are taught each term; so that a person may enter at the beginning of any term and find work suited to his advancement.

Examinations for admission are held at the beginning of each term. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

On entrance, applications for advanced standing in the courses or for credit for certain studies in the courses may be made to the chairman of the committee on examinations. After entrance, such applications should be made to the professor in charge of the study. In any case the applicant will be required to pass such an examination as the professor in charge deems necessary.

The courses of the following cities and counties have been approved by the Faculty, and others may be submitted at any time:

CITIES.

Abilene.	Coffeyville.	Hiawatha.	Lyons.	Pratt.
Alma.	Columbus.	Holton.	Manhattan.	Russell.
Anthony.	Concordia.	Horton.	Mankato.	Salina.
Argentine.	Council Grove.	Humboldt.	Marion.	Scranton.
Arkansas City.	Dexter.	Hutchinson.	McPherson.	Sedan.
Atchison.	Dodge City.	Independence.	Minneapolis.	Seneca.
Augusta.	El Dorado.	Iola.	Neodesha.	Solomon City.
Baldwin.	Ellsworth.	Junction City.	Newton.	St. Mary's.
Belleville.	Emporia.	Kanopolis.	Olathe.	Topeka.
Beloit.	Eureka.	Kansas City.	Osage City.	Valley Falls.
Burlingame.	Fort Scott.	Kingman.	Osborne.	Wamego.
Burlington.	Fredonia.	La Cygne.	Oswego.	Washington.
Caldwell.	Garden City.	Larned.	Ottawa.	Waverly.
Chanute.	Garnett.	Lawrence.	Paola.	Wellington.
Cherryvale.	Gaylord.	Leavenworth.	Parsons.	Wellsville.
Chetopa.	Girard.	Lebo.	Pittsburg.	Winfield.
Clay Center.	Great Bend.	Lincoln.	Pomona.	Wichita.
Clifton.				

COUNTIES.

Allen.	Elk.	Kingman.	Phillips.	Shawnee.
Barber.	Ellis.	Labette.	Pottawatomie.	Sherman.
Bourbon.	Ellsworth.	Lane.	Pratt.	Smith.
Chautauqua.	Franklin.	Lincoln.	Reno.	Thomas.
Cheyenne.	Geary.	Logan.	Republic.	Trego.
Clay.	Gove.	Marion.	Rice.	Wabaunsee.
Cloud.	Greeley.	Miami.	Riley.	Wallace.
Coffey.	Harper.	Mitchell.	Rooks.	Washington.
Comanche.	Harvey.	Morris.	Rush.	Wilson.
Cowley.	Jefferson.	Nemaha.	Russell.	Woodson.
Decatur.	Jewell.	Norton.	Scott.	Wyandotte.
Douglas.	Johnson.	Ottawa.		

COUNTY HIGH SCHOOLS.

Atchison and Dickinson.

Counties and cities on the accredited list may be called upon at any time to furnish evidence that they are maintaining a satisfactory standard of scholarship.

Students should make every effort to enter on the first day of the term. Those entering later will be at a serious disadvantage, and if more than two or three weeks late should expect to take review work or fewer studies. If unable to enter before mid-term it will be better to wait until the next term.

Hospitants.

That mature persons not able to attend College continuously may nevertheless be able to enjoy, in a measure, the privileges of the institution, an invitation has been extended to all citizens of Kansas who may be so disposed to visit the College, its lectures, laboratories, library, shops, and various departments, and to avail themselves, as fully of its advantages as may be consistent with their wishes, with the needs and duties of the regular students, and with the harmonious and successful working of the institution. Following are certain rules concerning hospitants:

Persons regularly attending any of the classes of the Kansas State

Agricultural College, without assuming the regular duties of students, will be known as hospitants, and—

1. Must be persons of mature age, whose attendance on regular college duties is obviously impracticable.

2. Must be properly enrolled at the President's office.

3. May attend any of the regular classes of the institution, subject to the same regulations, with regard to punctuality and attendance, as are imposed upon regular students, except as to recitations and examinations.

4. May use the library, as regular students.

5. Are not entitled to laboratory privileges without special recommendation of the professor in charge and the permission of the Faculty.

Examinations.

Examinations for admission are held at the beginning of each term, as shown in the calendar of the college year. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

Examinations in the courses are held twice each term, as announced in the calendar. The results of the examinations, marked on a scale of 100, are combined with the grades of the preceding daily exercises into a grade for the period. Grades reported to the Secretary for record are made up by giving the mid-term record a value of one-third and the record for the last half of the term a value of two-thirds. For passing a study, the mean grade so calculated, and also the grade for the last half of the term, must be at least seventy. Any student receiving less than a passing grade on two or more studies may be required to drop back or withdraw from the College. Any student may receive a certificate of standing, upon leaving College at the close of a term.

Students deficient in entrance studies must make good such deficiencies before entering on the work of the second year. Students are not catalogued in the third-year class unless all deficiencies of the preceding years are provided for. Candidates for graduation must make good all deficiencies before entering on the work of the spring term of the fourth year. No student is considered as a candidate for graduation who, after the opening of the fall term, is deficient more than three full studies in addition to regular work. Extra work is not allowed to any student who failed in any branch the preceding term, or whose average grade for all branches was less than eighty.

After entering college, students are allowed special examinations only upon recommendation of the professor in charge, and by permission of the committee on assignments. Permission for examina-

tion in studies not pursued with a class must be obtained at least two months before the examination is held. All such examinations are held under the immediate supervision of the professor in charge, and are thorough and exhaustive. Students desiring credit for work done elsewhere must bring certificates and catalogues to show that the work done is equivalent to ours. The right is reserved to cancel any credits if the work of the student in succeeding branches shows insufficient preparation.

Regulations in Regard to Substitutions.

With the five regular courses that the College now offers, most of the requirements of students are met. For one reason or another, however, some students find it necessary or desirable to substitute something else for the work that their respective courses would require. To place such substitutions on a systematic basis, the following regulations have been adopted by the Faculty:

1. Substitutions shall, as far as practicable, give training similar to that of the work displaced.

2. No student shall be allowed a substitution for work in which he has failed.

3. Unless made necessary by the acts of the Board of Regents or of the Faculty, substitutions shall not be allowed: (*a*) To students who are below the third year; (*b*) to students who have failed in any study of the two terms' work immediately preceding; (*c*) unless arranged for in advance.

4. Students desiring to substitute other work for any requirement in their respective courses of study must present written requests to the committee on assignments.

5. When a request for substitution is made by any student, the committee on assignments shall consult with all of the professors whose work is touched by the proposed substitution, and if unable to agree with them the case shall be submitted to the Faculty.

6. All substitutions arranged by the committee on assignments shall be reported to the Faculty by posting on the Faculty bulletin-board, and if not objected to within one week shall be reported to the Secretary for record in the students' register.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Monday, and no stu-

dent may be absent without excuse. Students cannot honorably leave the College before the close of a term, unless excused beforehand. A full and permanent record of attendance and scholarship shows to each student his standing in the Collage.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and absence from them is noted.

There are five prosperous literary societies, which meet weekly in rooms set apart for their use. The Alpha Beta and Franklin open to both sexes, and the Ionian for young women, meet Saturday afternoon. The Webster and the Hamilton admit to membership young men only, and meet on Saturday evening.

At various times during the year the College halls are opened for social and literary entertainments for the whole body of students, or for classes. For the last six years the students have organized and presented courses of entertainments, which have been of high value, and of a moderate expense to each individual.

Earning One's Way.

The courses of study are based upon the supposition that the student is here for study, and a proper grasp of the subjects cannot be obtained by the average student unless the greater part of his time is given to college duties. Students in straightened circumstances are encouraged and aided in every way possible, but unless exceptionally strong, both mentally and physically, are advised to take lighter work by extending the course, if obliged to give any considerable time to self-support. As a rule, a student should be prepared with means for at least a term, as some time is necessary for one to make acquaintances and learn where suitable work may be had.

The lines in which employment may be had are various. The College itself employs student labor to the extent of about $1200 per month, the rate paid being ten cents per hour. This work is on the farm, in the orchards and gardens, in the shops and printing-office, for the janitor, etc. As one's ability and trustworthiness becomes established, more responsible and more remunerative work may be had, to a limited extent. Many students obtain employment in the town; some work for their board in families in town or in the country near the College. Labor is everywhere respected, and the student who earns his way is honored by all. He will necessarily have little time for the lighter pleasures that may be incident to college life.

Expenses.

Tuition is Free. An incidental fee of $3 per term will be charged all students from Kansas. Students from outside of Kansas will be charged an incidental fee of $10 per term and an enrolment fee of

$10. Rooms, board and washing are not furnished by the College. Board, with furnished room, can be procured in private families at from $2.50 to $3.50 per week, or table board in student clubs from $2 to $2.25 per week. Furnished rooms, without board, can be obtained at from $3 to $5 per month. Some students board themselves at even less cost, and rooms for the purpose can be obtained at a rent of from $1 to $3.50 per month. Washing costs from 50 cents to 75 cents per dozen. Books cost about $3 per term. Young men below the junior year will be required to have military uniforms costing about $12, and young women below the junior year must have a calisthenic suit costing about $3. Ordinary expenditures, aside from clothing and traveling expenses, range from $100 to $200 per year. No institution in the state furnishes an education at less cost to the student.

Business Directions.

General information concerning the College and its work, studies, examinations, grades, boarding places, etc., may be obtained from the President or the Secretary.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several professors and superintendents.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid from the office of the State Treasurer.

All payments of principal and interest on account of bonds or land contracts must be made to the state treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The *Industrialist* may be addressed through Pres. E. R. Nichols, managing editor.

Donations for the library should be sent to the Librarian; donations for the museum, to the curator of the museum.

Applications for farmers' institutes should be made as early in the season as possible, addressing Institute Department, Kansas State Agricultural College.

Applications for the publications of the Experiment Station, and general inquiries concerning its work, should be addressed to Agricultural Experiment Station; but correspondence concerning any special line of investigation should be sent to the member of the Council in charge of the work concerning which information is desired.

All half-tones in this catalogue were made from photographs taken by Dr. S. C. Orr, of Manhattan, who has done all the College view work for the last four years.

Students.

GRADUATES.

IN COURSE LEADING TO MASTER'S DEGREE.

William Anderson, B. S. '98.....*Physics, Mathematics.*
Cleburne, Riley county.

Elizabeth Edna (Asbury) Derr, B. S. '00, *Domestic Science, Chemistry.*
Topeka, Shawnee county.

Frederick Waldemar Christensen, B. S. '00.....*Chemistry.*
Randolph, Riley county.

Maude Mildred Coe, B. S. '02.....*Domestic Science.*
Yates Center, Woodson county.

Homer Derr, B. S. '00.....*Physics, Mathematics.*
Topeka, Shawnee county.

Charles Eastman, B. S. '02.....*Veterinary Science, Physiology.*
Ogden, Riley county.

Josephine Finley, B. S. '00.....*Domestic Science.*
Manhattan, Riley county.

Edward Wilfred House, B. S. '02.....*Forestry, Botany.*
Manhattan, Riley county.

George Logan, B. S. '02.....*Veterinary Science, Agriculture.*
Manhattan, Riley county.

Eva Talitha Rigg, B. S. '02.....*Domestic Science.*
Marvin, Phillips county.

Gertrude Ella Stump, B. S. '96.....*Domestic Science, Chemistry.*
Manhattan, Riley county.

George Carpenter Wheeler, B. S. '95....*Agriculture, Dairying, Chemistry.*
Manhattan, Riley county.

NON-RESIDENT.

John Berthold Dorman, B. S. '96.....*Chemistry, Physics.*
West New Brighton, N. Y.

John Martin Kessler, B. S. '99.....*Horticulture, Botany.*
Eldora, Iowa.

Harry Delphos Orr, B. S. '99.....*Physiology, Chemistry.*
Chicago, Ill.

Helena Maude Pincomb, B. S. '01.....*Domestic Science, Chemistry.*
Pittsburg, Crawford county.

Frank Edwin Uhl, B. S. '96.....*Bacteriology, Agriculture.*
Gardner, Johnson county.

IN ADVANCED WORK NOT LEADING TO A DEGREE.

Ina Foote Cowles, B. S. '01.....*Music, Domestic Science.*
Sibley, Douglas county.

Christine Delphine Hofer, B. S. '02.....*Music, Drawing.*
Manhattan, Riley county.

Henrietta Mattie Hofer, B. S. '02.....*Music, Drawing.*
Manhattan, Riley county.

Charles W. Lyman, B. S. '96.....*Chemistry.*
Salina, Saline county.

Hattie May Noyes, B. S. '91.....*Domestic Science, Chemistry.*
Wabaunsee, Wabaunsee county.

Andrew Edward Oman, B. S. '00.....*Forestry.*
Winkler, Riley county.

Florence Helen Vail, B. S. '01.....*Chemistry.*
Manhattan, Riley county.

SENIORS.

Name.	Post-office and county (or state).
Amy Alena Allen,	Manhattan, Riley.
Grace Allingham,	Manhattan, Riley.
Wallace W. Baird,	Milford, (Riley.)
Wallace Newton Birch,	Manhattan, Riley.
Otis Neel Blair,	Lyndon, Osage.
Georgia Evaline Blaney,	Manhattan, Riley.
Richard Franklin Bourne,	Delphos, Ottawa.
Frank William Boyd,	Kensington, Smith.
William Armfield Boys,	Pomona, Franklin.
Howard McCune Chandler,	Kansas City, Wyandotte.
Clark Stewart Cole,	Manhattan, Riley.
De Verne Corbin,	Oxford, Sumner.
James A. Correll,	Manhattan, Riley.
Amos Luther Cottrell,	Wabaunsee, Wabaunsee.
Jennie Pearl Cottrell,	Wabaunsee, Wabaunsee.
Wilma Greene Cross,	Topeka, Shawnee.
Claude Carrol Cunningham,	Manhattan, Riley.
William Doz Davis,	Marquette, McPherson.
Charles Sumner Dearborn,	Silver Lake, Shawnee.
Robert William DeArmond,	Lincoln, Lincoln.
Thomas E. Dial,	Leavenworth, Leavenworth.
Roy Nathan Dorman,	Wabaunsee, Wabaunsee.
Orrin Pomeroy Drake,	Beattie, Marshall.
Lewis Sidney Edwards,	Emporia, Lyon.
Robert Alexander Esdon,	Olsburg, Pottawatomie.
Corinne Failyer,	Manhattan, Riley.
Maude Irene Failyer,	Manhattan, Riley.
Estella May Fearon,	Manhattan, Riley.
Ralph B. Felton,	McPherson, McPherson.
Ray Bonifield Felton,	McPherson, McPherson.
George T. Fielding,	Manhattan, Riley.
James William Fields,	McPherson, McPherson.
Beulah Fleming,	Smith Center, Smith.
Arthur B. Gahan,	Manhattan, (Pottawatomie).
Edwin Chase Gardner,	Homewood, Franklin.
Fred Norton Gillis,	Keene, Wabaunsee.
Clara S. Goodrich,	Mankato, Jewell.
Edith Anna Goodwin,	Detroit, Dickinson.
Ellsworth Paul Goodyear,	Oatville, Sedgwick.
Augusta Griffing,	Manhattan, Riley.

Name.	Post-office and county (or state).
Alanson L. Hallsted,	Havana, Montgomery.
Esther E. Hanson,	Marquette, McPherson.
Arthur Hurchel Helder,	Manhattan, Riley.
Edward Howard Hodgson,	Little River, Rice.
Pearl Holderman,	Chetopa, Labette.
Hartley Bowen Holroyd,	Manhattan, Riley.
Sarah C. Hougham,	Manhattan, Riley.
John Samuel Houser,	Oxford, Sumner.
Axel H. Johnson,	Marquette, McPherson.
Jesse McCullah Jones,	Moran, Allen.
Hernon Curtis Kyle,	Cawker City, Mitchell.
Raymond George Lawry,	Manhattan, Riley.
Rose Margaret McCoy,	Manhattan, (Pottawatomie).
Edwin William McCrone,	Haddam, Washington.
Kirk P. Mason,	Cawker City, Mitchell.
Bessie A. Mudge,	Manhattan, Riley.
Albert Marvin Nash,	Burlington, *Iowa.*
Harold Theodore Nielsen,	Denmark, Lincoln.
Ivan L. Nixon,	Manhattan, Riley.
Virginia Viola Norton,	Manhattan, Riley.
Russell Arthur Oakley,	Reedsville, Marshall.
Anna Louella O'Daniel,	Manhattan, Riley.
Clara Pancake,	Tully, Rawlins.
Celoa Alice Perry,	Manhattan, Riley.
Alexis Joseph Reed,	Smith Center, Smith.
Earl Nathaniel Rodell,	Marquette, McPherson.
Alice May Ross,	Manhattan, Riley.
Alfred Hayes Sanderson,	Marysville, Marshall.
John Marcus Scott,	Westmoreland, Pottawatomie.
Henry August Sidorfsky,	Le Roy, Coffey.
Emma Estella Smith,	Wamego, (Wabaunsee).
Horace Frederick Smith,	Wamego, (Wabaunsee).
Harley Lee Snodgrass,	Manhattan, Riley.
Harold Addison Spilman,	Manhattan, Riley.
Lois Stump,	Manhattan, Riley.
Harry Raymond Thatcher,	Great Bend, Barton.
Helen B. Thompson,	Wamego, (Wabaunsee).
John Augustus Thompson,	Edwardsville, Wyandotte.
Sarah Pauline Thompson,	Osborne, Osborne.
Dovie May Ulrich,	Manhattan, Riley.
Harry Nelson Vinall,	Oakley, Logan.
Alberta Suena Voiles,	Manhattan, Riley.
Orin Russell Wakefield,	Wilsey, Morris.
Leon Vincent White,	Manhattan, Riley.
Alice M. Worley,	Natoma, Osborne.
Walter Scott Wright,	Marvin, Phillips.

JUNIORS.

Edward E. Adamson,	Altamont, Labette.
Marian Allen,	Manhattan, Riley.
James George Arbuthnot,	Cuba, Republic.
Albert Clay Aumann,	Geuda Springs, (Cowley).

Name.	Post-office and county (or state).
Clinton Jesse Axtell,	Blue Rapids, Marshall.
Flora Evacelia Ballou,	Delphos, Ottawa.
William Burgess Banning,	Lyndon, Osage.
Asa William Barnard,	Manhattan, Riley.
Clara Florence Barnhisel,	Newton, Harvey.
Frank Lorin Bates,	Manhattan, Riley.
Louis Blaine Bender,	Highland, Doniphan.
John Jeremiah Biddison,	Manhattan, Riley.
McDonald Biddison,	Manhattan, Riley.
Charles P. Blachly,	Manhattan, Riley.
Frank Andrus Blakslee,	Manhattan, Riley.
Walter Brant,	Wichita, Sedgwick.
Viva Brenner,	Porterville, Bourbon.
Thomas Warner Buell,	Roanoke, *Texas.*
Eva Maggy Burtner,	Manhattan, Riley.
Ray Arthur Carle,	Topeka, Shawnee.
August Belmont Carnahan,	Douglass, Butler.
Joseph Griffith Chitty,	Frankfort, Marshall.
Andrew D. Colliver,	Galva, McPherson.
Gertrude Matilda Conner,	Mitchell, Rice.
Perry Alfred Cooley,	Manhattan, Riley.
Victor L. Cory,	Dundee, Barton.
Bertha Cowles,	Sibley, Douglas.
Ella Criss,	Grigsby, Scott.
Jules Cool Cunningham,	Glasco, Cloud.
Mary E. Davis,	Manhattan, Riley.
Aubrey W. Deane,	Muscatine, *Iowa.*
Minnie Estella Deibler,	Manhattan, Riley.
Lisla C. Dial,	Stockdale, Riley.
Lawrence A. Doane,	Manhattan, Riley.
May Doane,	Manhattan, Riley.
Carl O. Duehn,	Clements, Chase.
Glen Edgar Edgerton,	Manhattan, Riley.
Carl C. Elling,	North Cedar, Jefferson.
Elizabeth Finlayson,	Summerfield, Marshall.
Jessie Lois Fitz,	Vinland, Douglas.
Hattie L. Forsyth,	Dwight, Morris.
Louis Cloyd Foster,	Newton, Harvey.
George W. Gasser,	Neosho, *Missouri.*
William H. Goodwin,	Detroit, Dickinson.
Walter Otis Gray,	Crestline, Cherokee.
Rockwell W. Greene,	Lincoln, Lincoln.
John Bernice Griffing,	Manhattan, Riley.
Francis Linus Grimm,	Solomon, Dickinson.
Mabel Estelle Groome,	Williamsburg, Franklin.
Charles Alfred Groves,	Edwardsville, Wyandotte.
Mary Elizabeth Longfellow Hall,	Eatonville, Cowley.
Harry Vaughn Harlan,	Walnut, Crawford.
Harriett Harter,	Owatonna, *Minnesota.*
Mamie Magdelene Hassebroek,	Manhattan, Riley.
Mamie Eva Helder,	Manhattan, Riley.
William A. Hendershot,	Manhattan, Riley.

Name.	Post-office and county (or state).
Henry Hess,	Hesston, Harvey.
Orley Justin Hillyer,	Manhattan, Riley.
Chester Albert Hite,	Pond Creek, *Oklahoma.*
Frederick Earl Hodgson,	Little River, Rice.
Evan James,	Bala, Riley.
James Johnson,	Manhattan, Riley.
John Arthur Johnson,	Manhattan, Riley.
Jesse W. Joss,	Kirksville, *Missouri.*
Evan Kernohan,	Beverly, Lincoln.
Helen Kernohan,	Beverly, Lincoln.
Ralph Teeter Kersey,	Louisville, Pottawatomie.
Kenneth William Kimble,	Manhattan, Riley.
Charles Franklin Kinman,	Clay Center, Clay.
George Otto Kramer,	Wabaunsee, Wabaunsee.
Ed. Logan,	Manhattan, Riley.
George W. Loomis,	Girard, Crawford.
Rhoda C. McCartney,	Oakes, *North Dakota.*
Nellie Reeder McCoy,	Meriden, Jefferson.
Sara Grace McCrone,	Haddam, Washington.
Vera Alta McDonald,	Manhattan, Riley.
Edward Purcell McDowell,	Manhattan, Riley.
Ollie Jane Martin,	Garnett, Anderson.
Freide E. Marty,	Merriam, Johnson.
Howard David Matthews,	Carthage, *Missouri.*
Vernon Matthews,	Carthage, *Missouri.*
Chester Arthur Maus,	Topeka, Shawnee.
George C. Miller,	Valencia, Shawnee.
Leanore Elizabeth Miller,	Manhattan, Riley.
Winfred L. Milner,	Belleville, Republic.
Julia Anna Monroe,	Whiting, Jackson.
Helen Monsch,	Louisville, *Kentucky.*
Samuel Erwin Morlan,	Courtland, Republic.
Benjamin Frank Mudge,	Manhattan, Riley.
Mary Lorena O'Daniel,	Westmoreland, Pottawatomie.
Florence Phillips,	Garrison, Pottawatomie.
Myron A. Pierce,	Owatonna, *Minnesota.*
Tom Lawrence Pittman,	Hammond, Bourbon.
Burr Nuton Porter,	Oronoque, Norton.
Charles A. Pyles,	Morrill, Brown.
Ralph Ramsbottom,	Munden, Republic.
William Arthur Randle,	Bala, Riley.
Arthur J. Rhodes,	Manhattan, Riley.
Emmit D. Richardson,	Glen Elder, Mitchell.
Clarence M. Riker,	Oswego, Labette.
Florence Rebecca Ritchie,	Manhattan, Riley.
Kate L. Robertson,	Manhattan, Riley.
Jesse Loyde Rogers,	Louisburg, Miami.
Fred Calvin Romig,	Curran, Harper.
Lawrence V. Sanford,	Oneida, Nemaha.
James G. Savage,	Bluff Springs, *Illinois.*
Nickolas Schmitz,	Little River, Rice.
Roy A. Seaton,	Jewell, Jewell.

Name.	Post-office and county (or state).
John T. Skinner,	Neodesha, Wilson.
Garfield William Skow,	Leonardville, Riley.
Homer A. Smith,	Logan, Phillips.
Margie Smith,	Manhattan, Riley.
Sallie Maud Smith,	Manhattan, Riley.
Guy Emerson Souders,	Manhattan, Riley.
Crete Spencer,	Manhattan, Riley.
Arthur S. Stauffer,	Newton, Harvey.
Mary Catherine Strite,	Ogden, Riley.
K. Elizabeth Sweet,	Burlington, Coffey.
Charles Bartholow Swift,	Williamsburg, Franklin.
Wendell Phillips Terrell,	Fort Worth, *Texas.*
Henry Thomas,	Wichita, Sedgwick.
Carl Thompson,	Garrison, Pottawatomie.
John Bert Thompson,	Leon, Butler.
Roger S. Thompson,	Osborne, Osborne.
Norman Lee Town,	Valencia, Shawnee.
Freida Trunk,	Lyons, Rice.
William Turnbull,	Summerfield, Marshall.
Gertrude M. Vance,	Manhattan, Riley.
Fred VanDorp,	Topeka, Shawnee.
Nettie J. Wayland,	Kansas City, Wyandotte.
Frank Cooper Webb,	Clearwater, Sedgwick.
William Allen Webb,	Clearwater, Sedgwick.
James Halley Whipple,	Olivet, Osage.
Orville Blaine Whipple,	Olivet, Osage.
Amelia Jennie Wiest,	Manhattan, Riley.
William J. Wilkinson,	Manhattan, Riley.
George Leroy Williston,	Manhattan, Riley.
Robert S. Wilson,	Eatonville, Cowley.
George Wolf,	Manhattan, Riley.
Retta Womer,	Womer, Smith.
Earnest A. Wright,	Smith Center, Smith.

SOPHOMORES.

Harvey Adams,	Ozawkie, Jefferson.
Elva Veola Akin,	Manhattan, Riley.
Pearle Akin,	Manhattan, Riley.
Charles Wesley Allison,	Fort Scott, Bourbon.
Flora Bell Austin,	Osage City, Osage.
Nellie Wilhelmina Baird,	Marquette, McPherson.
Walter Raymond Ballard,	Baxter Springs, Cherokee.
Jessie Mary Ballou,	Delphos, Ottawa.
Frank Everett Balmer,	Woodston, Rooks.
Harvey P. Barndt,	Sabetha, Nemaha.
R. A. Barry,	Belle Plaine, Sumner.
Harry N. Bealey,	Morrill, Brown.
Atwood N. H. Beeman,	St. Louis, *Missouri.*
Herbert F. Bergman,	Manhattan, Riley.
Walter Herman Berkey,	Louisburg, Miami.
Raymond Russell Birch,	Manhattan, Riley.
Helen Elizabeth Bottomly,	Manhattan, Riley.

Name.	Post-office and county (or state).
Warren Luther Bowlby,	Fairport, Russell.
Roy C. Bowman,	Oxford, Sumner.
Edward Brant,	Wichita, Sedgwick.
Flora Edna Brenner,	Manhattan, Riley.
George K. Brenner,	Manhattan, Riley.
Edwin H. Brown,	Lincoln, *Nebraska.*
Frank E. Brown,	Highland, Doniphan.
William Wilkinson Buckley,	Clyde, Cloud.
Harvey A. Burt,	Bronson, Bourbon.
Fred Gordon Campbell,	Hutchinson, Reno.
Robert Moore Campbell,	Wamego, Pottawatomie.
Albert F. Cassell,	Beverly, Lincoln.
Robert Archer Cassell,	Manhattan, Riley.
Robert Merritt Chamberlain,	Stockton, Rooks.
Levi Charles Chase,	Hoyt, Jackson.
James Hamilton Cheney,	Great Bend, Barton.
Florence Christina Christensen,	Randolph, Riley.
Roy H. Clark,	Newton, Harvey.
Lida Ethel Clemons,	Manhattan, Riley.
Delmer Coffman,	Manhattan, Riley.
William Irving Coldwell,	Oxford, Sumner.
Earle Albert Cole,	Cuba, Republic.
Mary Margaret Cole,	Manhattan, Riley.
Orlo Loomis Coleman,	Oneida, Nemaha.
Roy Venoia Coleman,	Oneida, Nemaha.
Mary P. Colliver,	Galva, McPherson.
Archie Conner,	Lyons, Rice.
Edna L. Converse,	Rhinehart, Dickinson.
Ruth Cooley,	Manhattan, Riley.
Marvin James Copping,	Delphos, Ottawa.
Don Carl Corbin,	Owens, *Oklahoma.*
Forrest Leslie Courter,	Downs, Osborne.
Edgar Andrew Cowles,	El Dorado, Butler.
Charles Curtis Crowley,	Council Grove, Morris.
Charles William Cummings,	Wilmore, Comanche.
Mamie Grace Cunningham,	Fairview, *Oklahoma.*
Dickie Davies,	Green, Clay.
Edith Nellie Davis,	Manhattan, Riley.
Guy R. Davis,	Kansas City, *Missouri.*
Jay L. Dow,	Manhattan, Riley.
Odessa Della Dow,	Manhattan, Riley.
Ula May Dow,	Manhattan, Riley.
Mary Josephine Edwards,	Emporia, Lyon.
Arthie Aileen Edworthy,	Solomon, Dickinson.
Perylle Avis Embry,	Ottawa, Franklin.
Earl Joy Evans,	Jewell, Jewell.
William K. Evans,	Colby, Thomas.
Minter Farrar,	Axtell, Marshall.
Scott Stuart Fay,	Wilsey, Morris.
Edith Louisa Felton,	McPherson, McPherson.
Harlow Ferguson,	Wabaunsee, Wabaunsee.
Arba C. Ferris,	Conway, McPherson.

Name.	Post-office and county (or state).
Lathrop Weaver Fielding,	Manhattan, Riley.
Lena Finley,	Manhattan, Riley.
Pearl Frost,	Esbon, Jewell.
Charles Wesley Fryhofer,	Randolph, Riley.
Robert Anson Fulton,	Beloit, Mitchell.
Christian A. Gabelman,	Fairport, Ellis.
George A. Gilkison,	Oberlin, Decatur.
Tilden Gingerich,	Vassar, Osage.
Elbert Ernest Greenough,	Bennington Ottawa.
David H. Gripton,	Smith Center, Smith.
Herbert Revere Groome,	Manhattan, Riley.
George H. Gross,	Abilene, Dickinson.
Edna Haines,	Manhattan, Riley.
Avery Vernon Hancock,	Guthrie, *Oklahoma.*
Richard Nimrod Hankins,	Iola, Allen.
Boline Hanson,	Jamestown, (Republic).
Otto Albert Hanson,	Marquette, McPherson.
William H. Harold,	Marion, Marion.
Arthur Garfield Harris,	Lincoln, *Nebraska.*
Lola May Harris,	Harveyville, Wabaunsee.
John Harrison,	Manhattan, Riley.
Milo M. Hastings,	Effingham, Atchison.
Clarence Hawkinson,	Marquette, McPherson.
Edna Hawkinson,	Marquette, McPherson.
Leslie Eugene Hazen,	Centralia, Nemaha.
Harry Russell Heim,	Lincoln, Lincoln.
Harold C. Herman,	Reserve, Brown.
Esther Cecelia Hjelm,	Manhattan, Riley.
Benoni Hoffhines,	Marquette, McPherson.
Anna Hostrup,	Manhattan, Riley.
Mabel Howell,	Manhattan, Riley.
Charles Clinton Howenstine,	Manhattan, Riley.
Bessie Isabel Hudson,	Manhattan, Riley.
Roy Hulse,	Keats, Riley.
William H. Irving,	Baker, Brown.
Linnie A. Jacobs,	Garrison, (Riley).
Susie C. Jacobs,	Garrison, (Riley).
Cora B. Janes,	Quincy, *Illinois.*
Charles Fredrick Johnson,	Mayday, Riley.
Winifred Mae Johnson,	Solomon Rapids, Mitchell.
Laura Frances Jones,	Moran, Allen.
Ralph Le Roy Joss,	Sabetha, Nemaha.
George Henry Kellogg,	Manhattan, Riley.
Clarence Brady Kirk,	Burr Oak, Jewell.
Mildred I. Kirkwood,	Marysville, Marshall.
Nina H. Kirkwood,	Marysville, Marshall.
Luie Edgar Klein,	Manhattan, Riley.
Bertha Krotzer,	Manhattan, Riley.
Charles Kruger,	Seneca, Nemaha.
Clair Legere,	Hill City, Graham.
Halvor Lindland,	Manhattan, Riley.
William Ljungdahl,	Manhattan, (Geary).

Name.	Post-office and county (or state).
Namaus Lock,	Kansas City, *Missouri.*
Daniel Andrew Logan,	Manhattan, Riley.
Roy Earl Zane Long,	Neodesha, Wilson.
Vallie Myrtle Long,	Simpson, Mitchell.
Samuel Ellison Lorimer,	Olathe, Johnson.
John E. P. Lowe,	Phillipsburg, Phillips.
Roy Munroe McKee,	Offerle, Edwards.
Ernest Wilson Matherly,	Manhattan, Riley.
Lloyd Cummins Matson,	Longton, Elk.
Grace Burchett Maxey,	Pomona, Franklin.
Richard Meyer,	Riley, Riley.
Bessie May Montgomery,	Smith Center, Smith.
John Clemet Morrison,	Great Bend, Barton.
Mary Mudge,	Manhattan, Riley.
Lewis J. Munger,	Hollis, Cloud.
Dawn Victoria Murphy,	Keats, Riley.
Verda Ellen Murphy,	Manhattan, Riley.
William Bartle Neal,	Larned, Pawnee.
Ruth Emma Neiman,	Whitewater, Butler.
Bernard R. Nelson,	Lawrence, Douglas.
Frank Newell,	Zeandale, Riley.
Ross N. Newland,	Groveland, McPherson.
Rachel Gertrude Nicholson,	Manhattan, Riley.
Margaret Alice Norton,	Manhattan, Riley.
Jens Nygard,	Denmark, Lincoln.
Amer B. Nystrom,	Topeka, Shawnee.
Leo E. Oates,	Garnett, Anderson.
Allace L. Ober,	Ottawa, Franklin.
Elinore B. Ober,	Ottawa, Franklin.
Anna Matilda Olson,	Manhattan, Riley.
Henry Otto,	Philadelphia, *Pennsylvania.*
Charles Martin Paddock,	Manhattan, Riley.
Louis Reynolds Parkerson,	Manhattan, Riley.
Nell Paulsen,	Whiting, Jackson.
John J. Peckham,	Courtland, Republic.
Arthur Alexander R. Perrine,	Newton, Harvey.
Ruth A. Pfohl,	Princeton, *Indiana.*
Luther B. Pickett,	Emporia, Lyon.
Charles Holcomb Popenoe,	Topeka, Shawnee.
Raymond Ramage,	Arkansas City, Cowley.
Ernest Carl Reed,	Genoa, *Illinois.*
Fanny E. Reynolds,	Cawker City, Mitchell.
Elvin Rickman,	Manhattan, Riley.
Eva May Rickman,	Manhattan, Riley.
Jesse Clyde Rickman,	Manhattan, Riley.
Nellie Eva Rickman,	Manhattan, Riley.
Jennie Inez Ritner,	Manhattan, Riley.
Dorse Robinson,	Beloit, Mitchell.
Hannah Rollins,	Agra, Phillips.
Sarah Rollins,	Agra, Phillips.
George Rummel,	Hartford, Lyon.

Name.	Post-office and county (or state).
William Paul Schroeder,	Lebanon, Smith.
Orville Oshell Scott,	Hutchinson, Reno.
Garfield Shirley,	Newman, Jefferson.
Martin Roy Shuler,	Clifton, Washington.
G. Wallace Simpson,	Council Grove, Morris.
Herbert Newton Skinner,	Jewell, Jewell.
Ethel Louise Smith,	Kansas City, Wyandotte.
Stanley Van Smith,	Ozawkie, Jefferson.
Walter Emery Smith,	Lebo, Coffey.
Winfield Weber Smith,	Norton, Norton.
Zula E. Soupene,	Manhattan, Riley.
Harvey Spencer,	Millerton, Sumner.
George A. Spohr,	Manhattan, Riley.
Julia C. Spohr,	Manhattan, Riley.
Henry Adam Spuhler,	Manhattan, Riley.
William Wesley Stanfield,	Chanute, Neosho.
Blanche Stevens,	Humboldt, Allen.
Harry L. Stevens,	Green, Clay.
Orin A. Stevens,	Blue Rapids, Marshall.
Effie L. Stewart,	Humboldt, Allen.
Daisy May Strite,	Manhattan, Riley.
Ernest Felix Swanson,	Hollis, Cloud.
Jessie A. Sweet,	Stockdale, Riley.
Howard Taylor,	Chapman, Dickinson.
Reuben D. Thomas,	Waterville, Marshall.
Charles L. Thompson,	Leon, Butler.
Claude B. Thummel,	Axtell, Marshall.
Jessie Leona Travis,	Oakley, Logan.
James Monroe Trobert,	Kelly, Nemaha.
Marcia Elizabeth Turner,	Rock Creek, Jefferson.
Horace E. Ulrich,	Manhattan, Riley.
Grace E. Umberger,	Hymer, Chase.
Harry Umberger,	Hymer, Chase.
Eleanor Belle VanOrsdel,	Riley, Riley.
Rebecca Rees Washington,	Manhattan, Riley.
Scott Wear,	Oatville, Sedgwick.
Henry R. Webster,	Yates Center, Woodson.
Joseph Franklin Weed,	Athol, Smith.
Pauline Emilie Wetzig,	Winkler, Riley.
Earl Wheeler,	Bridgeport, Saline.
Inez Wheeler,	Bridgeport, Saline.
Clarence Earl Whipple,	Olivet, Osage.
Clarence H. White,	Burlington, Coffey.
David Dwight White,	Newton, Harvey.
Harry White,	Council Grove, Morris.
Howard B. White,	North Topeka, Shawnee.
Thomas F. White,	Little River, Rice.
Wayne White,	Burlington, Coffey.
Jenevi M. Wilkinson,	Topeka, Shawnee.
Rose Wilkinson,	Manhattan, Riley.
Robert E. Williams,	Herington, Dickinson.
Edgar M. Wilson,	Eatonville, Cowley.

Name.	Post-office and county (or state).
Frederick W. Wilson,	Hill City, Graham.
Charles H. Withington,	Allen, Lyon.
Katherine J. Witt,	Hartshorne, *Indian Territory.*
Frank Woodruff,	Yates Center, Woodson.
Jay G. Worswick,	Ozawkie, Jefferson.

FRESHMEN.

Francis C. Abbott,	Manhattan, Riley.
Ernest L. Adams,	Ozawkie, Jefferson.
Bess Alexander,	Welda, Anderson.
Kate Alexander,	Welda, Anderson.
Lizzie Bea Alexander,	Manhattan, Riley.
Jessie Patience Allen,	Manhattan, Riley.
Susie L. Allen,	Clay Center, *Nebraska.*
Cora Elizabeth Allison,	Florence, Marion.
Clarence Lee Allman,	Manhattan, Riley.
William I. Alstead,	Randolph, Riley.
Harold H. Amos,	Manhattan, Riley.
Cyrus J. Anderson,	Hollis, Cloud.
Florence Olive Anderson,	Randolph, Riley.
Harry N. Anderson,	Abilene, Dickinson.
John M. Andrews,	Beloit, Mitchell.
Mitchell Andrews,	Beloit, Mitchell.
Loyd B. Babbit,	Hiawatha, Brown.
Benjamin B. Baird,	Milford, (Riley).
Robert Obidiah Baird,	Cuba, Republic.
James Edward Baker,	Brenner, Doniphan.
Raymond C. Barr,	Manhattan, Riley.
May Barry,	Manhattan, Riley.
Charles Earle Bassler,	Waterloo, *Nebraska.*
Mabel Baxter,	Manhattan, Riley.
Julia Susanna Bayles,	Manhattan, Riley.
William Fielding Bayne,	Tisdale, Cowley.
Ira J. Beach,	Winfield, Cowley.
Samuel Keith Beach,	Keene, Wabaunsee.
Jesse N. Bealey,	Morrill, Brown.
Leslie Ward Beckman,	Randolph, Riley.
Alvan E. Beeler,	Grantville, Jefferson.
Ivan R. Beeler,	Grantville, Jefferson.
Alfred J. Belin,	Green, (Riley).
Kate Bell,	Manhattan, Riley.
Ira Roscoe Berkey,	Louisburg, Miami.
Evelyne Myrtle Berkley,	Manhattan, Riley.
Harrison Roy Betz,	Chapman, Dickinson.
Clare Biddison,	Manhattan, Riley.
Ethel Viola Bixby,	Solomon Rapids, Mitchell.
Horace Bixby,	Solomon Rapids, Mitchell.
Leola Pearl Bixby,	Solomon Rapids, Mitchell.
Bessie Louisa Blanchard,	Marysville, Marshall.
Mary Bolton,	Paxico, Wabaunsee.
Herbert Jefferson Bottomly,	Manhattan, Riley.
Gordon B. Bourne,	Delphos, Cloud).

Name.	Post-office and county (or state).
Clementine Rigby Bower,	Manhattan, Riley.
Thomas W. Bower,	Manhattan, Riley.
Warren R. Boyd,	Kensington, Smith.
Harry Delwyn Briggs,	Manhattan, Riley.
John Briggs,	Manhattan, (Geary).
James E. Brock,	Chase, Rice.
James Robert Brock,	Frankfort, (Nemaha).
Frank F. Brooke,	Garnett, Anderson.
Byrdie Anna Brown,	Manhattan, Riley.
Foster L. Brown,	Hiawatha, Brown.
G. Homer Brown,	Arkansas City, Cowley.
Grace Florence Brown,	Manhattan, Riley.
Albert Cooper Buffum,	Manhattan, Riley.
Rollin Bull,	Lenora, Norton.
Alten Clyde Burger,	Reserve, Brown.
Harley Joe Burger,	Reserve, Brown.
Walter E. Burt,	Bronson, Bourbon.
William Archie Bush,	Oakland, Shawnee.
W. Wesley Bush,	Little River, Rice.
Arthur Butler,	Lawrence, Douglas.
Robert Orlin Butler,	Topeka, Shawnee.
Fred Wallace Caldwell,	Garnett, Anderson.
Frankie Calvin,	Riley, Riley.
John Willard Calvin,	Manhattan, Riley.
Delwin Morton Campbell,	Meriden, Jefferson.
Kate Lavenia Campbell,	Manhattan, Riley.
Stella Campbell,	Goodrich, Linn.
Will Ward Campbell,	Emporia, Lyon.
John Sheldon Canfield,	Belleville, Republic.
Torje Carlson,	Almena, Norton.
Nannie Carnahan,	Stockdale, Riley.
Estella Victoria Carson,	Dodge City, Ford.
Walter Carson,	Dodge City, Ford.
Frank A. Chamberlain,	Stockton, Rooks.
Addie Clark,	Manhattan, Riley.
Curtis E. Clark,	Reserve, Brown.
Frederick Maxwell Clark,	Manhattan, Riley.
Millicent E. Clark,	Manhattan, Riley.
Norman H. Clark,	Welcome, Geary.
Robert Earl Clark,	Meeker, *Colorado.*
Lee S. Clarke,	Wagoner, *Indian Territory*
Dora Clarkson,	Fairport, Russell.
Alice Pearl Cloud,	Wabaunsee, Wabaunsee.
Stella May Clure,	Des Moines, *Iowa.*
Edith E. Coffman,	Manhattan, Riley.
Amy Cole,	Manhattan, Riley.
Edwin Lloyd Cole,	Manhattan, Riley.
Roy Allison Collier,	Liberal, Seward.
Allan Colman,	Manchester, Dickinson.
Roy William Conkey,	Nortonville, Jefferson.
Claude S. Conner,	Lyons, Rice.
Hermon H. Conwell,	Topeka, Shawnee.

Name.	Post-office and county (or state).
W. Howard Cook,	Kingman, Kingman.
George Vicary Cooke,	Freeport, Harper.
Ralph Cooley,	Manhattan, Riley.
Bernard C. Copeland,	Idana, Clay.
Mary Copley,	Manhattan, Riley.
Grover C. Cottingham,	Le Roy, Coffey.
Ethel Cowles,	Sibley, Douglas.
Glen H. Crippen,	Council Grove, Morris.
Lurie Mae Crofut,	Manhattan, Riley.
Wardie Albertus Crofut,	Manhattan, Riley.
Everet William Cudney,	Belpre, Edwards.
Floyd M. Cudney,	Belpre, Edwards.
Herman L. Cudney,	Belpre, Edwards.
Margaret Ruth Cunningham,	Glasco, Cloud.
Sol Whitney Cunningham,	Manhattan, Riley.
Harry Albert Cure,	Atchison, Atchison.
June Currier,	Garnett, Anderson.
Ross Curtis,	Vermilion, Marshall.
Roy Dale,	Manhattan, Riley.
Winifred Anna Dalton,	Saint George, Pottawatomie.
Curtis Lynn Daughters,	Lincoln, Lincoln.
Clyde Ostrand Davidson,	Columbus, Cherokee.
Donald Davies,	Green, Clay.
Aurel N. Davis,	Manhattan, Riley.
Ernest Davis,	Parsons, Labette.
Herbert Lee Davis,	Junction City, Geary.
Joseph Nelson Davis,	Elk Falls, Elk.
Robert Lee Davis,	Vermilion, Marshall.
William L. Davis,	Fairview, Brown.
Anna Eliza Day,	Manhattan, Riley.
Loea Bessie DeArmond,	Manhattan, Riley.
Alexander Denneler,	Winchester, Jefferson.
Frank Willis Denton,	Chetopa, Labette.
Florene B. Deputy,	Manhattan, Riley.
Fred Stephen Dever,	Le Roy, Coffey.
Roy H. Dillingham,	Hiawatha, Brown.
Charles Morton Dole,	Doles Park, McPherson.
Edward S. Dolph,	McLouth, Jefferson.
Harry Douglas,	Manhattan, Riley.
Alice Ada Dresser,	Manhattan, Riley.
Fredrick Lee Duncan,	Delphos, Ottawa.
Curtis Antony Eastwood,	Berlin, Bourbon.
Walter H. Edmundson,	Home, Marshall.
Leonard Roscoe Elder,	Osage City, Osage.
M. Carrie Elliott,	Beatrice, *Nebraska.*
William Earl Ellsworth,	La Cygne, Linn.
Marshal Elsas,	Chillicothe, *Missouri.*
Esther E. Ericson,	Manhattan, Riley.
Harriet Maria Esdon,	Olsburg, Pottawatomie.
Chauncey D. Evans,	Council Grove, Morris.
Lois Failyer,	Manhattan, Riley.
Arthur Eugean Fairman,	Wakefield, Clay.

Name.	Post-office and county (or state).
Lena Cora Fay,	Wilsey, Morris.
Florence May Felton,	McPherson, McPherson.
Harry H. Ferguson,	Philadelphia, *Pennsylvania.*
Edna J. Flatter,	Manhattan, Riley.
Fenton Burn Fleming,	Athol, Smith.
Mabel D. Fleming,	Smith Center, Smith.
M. Edith Forsyth,	Dwight, Morris.
Frank W. Fortna,	Chase, Rice.
Jerry J. Foster,	Paradise, Russell.
James Wilson Freeman,	Walnut, Crawford.
Newton Staley Gall,	Reserve, Brown.
John M. Garrity,	Perth, Sumner.
Albert Gasser,	Manhattan, Riley.
Eunice May Gates,	Manhattan, Riley.
Laura Gates,	Manhattan, Riley.
Jesse E. George,	Ottawa, *Indian Territory.*
Olga Effie George,	Manhattan, Riley.
Charles A. Gilkison,	Larned, Pawnee.
Walter W. Gillespie,	Buffalo, Wilson.
William Thomas Gilliford,	Olsburg, Pottawatomie.
Oliver Holmes Gish,	Acme, Dickinson.
Walter S. Gish,	Abilene, Dickinson.
Jessie Mae Gist,	Capioma, Nemaha.
Adolph J. Goering,	Moundridge, McPherson.
Jessie Lucretia Gove,	Cherokee, Crawford.
Harry V. Graham,	Beverly, Lincoln.
Lewis W. Graham,	Turon, Reno.
Mont J. Green,	Randall, Jewell.
May Lucetta Griffing,	Manhattan, Riley.
Pauline Gripton,	Smith Center, Smith.
Walter Purtee Groves,	Edwardsville, Wyandotte.
Aaron Guth,	Sterling, Rice.
Harry T. Hamler,	Hulen, *Oklahoma.*
Ora Elmer Hammond,	Tilley, *Missouri.*
Joy Belle Hancock,	Guthrie, *Oklahoma.*
Allen Hansford,	Topeka, Shawnee.
Louis William Hanson,	Greenleaf, Washington.
Daisye Ina Harner,	Manhattan, Riley.
Irl Hinman Harris,	Cape Girardeau, *Missouri.*
John Willson Harris,	Chicago, *Illinois.*
Grace Ellen Harrison,	Manhattan, Riley.
Ida F. Hassebroek,	Manhattan, Riley.
David Frank Hawkins,	Lyndon, Osage.
Oliver Hawks,	Morrill, Brown.
Charles Robert Hedrick,	Carthage, *Missouri.*
Lamar Raper Hennessy,	Neodesha, Wilson.
Jestie Lovinia Hepler,	Manhattan, Riley.
Vara S. Hepler,	Manhattan, Riley.
Oliver W. Hess,	Alma, Wabaunsee.
Vern E. Hess,	Almena, Norton.
George William Hewins,	Valencia, Shawnee.
Minnie May Hicks,	Wamego, Pottawatomie.

Name.	Post-office and county (or state).
Inez Leota Hjort,	Manhattan, Riley.
Jennie Hoffhines,	Marquette, McPherson.
Lark Hoffman,	Manhattan, Riley.
Ross Elmer Hoffman,	Manhattan, Riley.
Gertrude Elma Hole,	Washington, Washington.
William Warren Hole,	Washington, Washington.
George E. Hornbuckle,	Paola, Miami.
Ruby Abigail Howard,	Fulton, *Oklahoma.*
Annice Howell,	North Topeka, Shawnee.
Harvey B. Hubbard,	Beloit, Mitchell.
Elsie Pearl Humphreys,	Kiowa, Barber.
Annie Hutchings,	Pomona, Franklin.
Guy Charles Hutchinson,	Bellaire, Smith.
William Harry Ijams,	Aurora, Cloud.
Irene Ingraham,	Manhattan, Riley.
Helen C. Inskeep,	Manhattan, (Pottawatomie).
Minnie Ora Jenkins,	Council Grove, Morris.
Josiah Anderson Jeter,	Saint Clere, Pottawatomie.
Alta L. Jewitt,	Yates Center, Woodson.
Elmer Johnson,	Latimer, Morris.
Edward M. Johnston,	Caldwell, Sumner.
Tom Henry Johnston,	Manhattan, Riley.
Charles Sumner Jones,	Moran, Allen.
George W. Jones,	Hill City, Graham.
Seneca Jones,	Bala, Riley.
Robert Jordan,	Caldwell, Sumner.
Chester G. Joy,	Cora, Smith.
Harry W. Judd,	Manchester, Dickinson.
Clara Myrtle Kahl,	Manhattan, Riley.
Grover Cleveland Kahl,	Manhattan, Riley.
William W. Kendall,	Tonganoxie, Leavenworth.
Almira Kerr,	Idana, Clay.
William Francis Kerr,	Idana, Clay.
Fredric Arthur Kiene,	Valencia, Shawnee.
Emory Murvin Kiger,	Burlington, Coffey.
Thomas Barr Kiger,	Burlington, Coffey.
Mary Kimball,	Manhattan, Riley.
Herbert Kindred,	Lenape, Leavenworth.
John Fred Kindsvater,	Manhattan, Riley.
Elizabeth Hattie Klein,	Manhattan, Riley.
Joseph P. Klein,	Manhattan, Riley.
Bessie Bell Knight,	Manhattan, Riley.
Edna Beth Knostman,	Manhattan, Riley.
Willis Kramer.	Auburn, Shawnee.
Hans Hanson Krogh,	Jamestown, (Republic).
Albert Laravana Larson,	Marquette, McPherson.
Robert Gould Larzelere,	Wathena, Doniphan.
Will G. Lemmon,	Nardin, *Oklahoma.*
Clyde Livingston Lewis,	Kansas City, Wyandotte.
Percy E. Lill,	Andale, Sedgwick.
Guy Gilbert Lilley,	Star, Greenwood.
Theodosia Lofinck,	Manhattan, Riley.

Name.	Post-office and county (or state).
Wilbert Dean Lorimer,	Olathe, Johnson.
Laura Lillian Lyman,	Manhattan, Riley.
William E. McAvoy,	Iuka, Pratt.
Andrew DeLos McCampbell,	Manhattan, Riley.
Charles Wilbur McCampbell,	Manhattan, Riley.
Edward Louis McClaskey,	Girard, Crawford.
George W. McClung,	Jewell, Jewell.
Homer McGrew,	Kansas City, Wyandotte.
Lewis McHenry,	Stockton, Rooks.
James K. McKenzie,	Parkerville, Morris.
Matthew McKeon,	Frankfort, Marshall.
Fred B. McKinnell,	Maize, Sedgwick.
Charles E. McLaughlin,	Newton, Harvey.
Irwin Clearnce McManis,	Manhattan, Riley.
Charles Edward McMillan,	Plymouth, Lyon.
John Roger McMillan,	Williamsburg, Franklin.
Cora E. McNutt,	Ottawa, Franklin.
Alma McRae,	Goodrich, Linn.
Alva Mabry,	Little River, Rice.
Achsah Claire Mackey,	Oskaloosa, Jefferson.
Robert Johnson Mackey,	Oskaloosa, Jefferson.
Rhoda Florence Macklin,	Haddam, Washington.
Julius G. Maelzer,	Vermilion, Marshall.
Frances Manchester,	Chiles, Miami.
Frank P. Manny,	Winfield, Cowley.
Karl Manny,	Winfield, Cowley.
James Webster March,	Manhattan, Riley.
Earl J. Margrave,	Reserve, Brown.
Carl R. Marsh,	Gaylord, Smith.
Phillip Edward Marshall,	Denison, Jackson.
Cleveland Taylor Martin,	Meriden, (Jackson).
David Maxey,	Bozeman, *Montana.*
Sarah Mead,	Dexter, Cowley.
James E. Merritt,	Manhattan, Riley.
Edward M. Miers,	Manhattan, Riley.
Bernard P. Miller,	Lorraine, Ellsworth.
Clarence Metcalf Miller,	Manhattan, Riley.
Edgar S. Miller,	Derby, Sedgwick.
Fred Carl Miller,	Belvue, Pottawatomie.
Clarence Moffitt,	Winfield, Cowley.
Ira James Monroe,	Whiting, Jackson.
Roy N. Monroe,	Whiting, Jackson.
Joseph Shaw Montgomery,	Cedar Point, Chase.
Bertha James Morgan,	Topeka, Shawnee.
Edward Allen Morgan,	Brainerd, Butler.
Loren Claire Morgan,	Cherryvale, Montgomery.
James Morrison,	Ford, Ford.
William Thomas Morrison,	Phillipsburg, Phillips.
Ethel Hope Moyer,	Keats, Riley.
Willard Austin Moyer,	Keats, Riley.
Alvan Taylor Munger,	Hollis, Cloud.
Mabel Murphy,	Manhattan, Riley.

Name.	Post-office and county (or state).
Kate Murray,	Ogden, Riley.
Helen Mabel Mustard,	Manchester, Dickinson.
Bessie Myers,	Ogden, Riley.
Myra Myers,	Marquette, McPherson.
Nellie Florence Nason,	Rossville, Shawnee.
Frank M. Neal,	Topeka, Shawnee.
Malcolm E. Nicholson,	Council Grove, Morris.
Lloyd Nicklin,	Emporia, Lyon.
Bessie Minerva Nicolet,	Manhattan, Riley.
Christ G. Nielson,	Lincoln, Lincoln.
Segrid Elizabeth Nystrom,	Topeka, Shawnee.
Albert Earl O'Brien,	Manhattan, Riley.
Alice E. O'Brien,	Manhattan, Riley.
Faye H. Oliver,	Dwight, Morris.
Arthur Leroy Olson,	Manhattan, (Geary).
Victor Emanuel Oman,	Walsburg, Riley.
William Oliver Orr,	Chase, Rice.
Ralph Osborn,	Emporia, Lyon.
Jay D. Paddock,	Oberlin, Decatur.
Louie Lee Paine,	Manhattan, Riley.
Rennick Rubenell Paine,	Manhattan, Riley.
Maude C. Parrish,	Ottawa, Franklin.
Eliphalet Thierer Patee,	Manhattan, Riley.
William Clarence Paul,	Blue Rapids, Marshall.
Leonard Marion Peairs,	Lawrence, Douglas.
Grace D. Pearson,	Humboldt, Allen.
Severance Pedroja,	Hamilton, Greenwood.
Carrie Theodosia Perkins,	Wakefield, Clay.
Charles F. Perry,	Manhattan, Riley.
Edwin H. Peterson,	Lyndon, Osage.
John Buell Peterson,	Wichita, Sedgwick.
Milo C. Phelps,	Ramona, Marion.
Carl Phillips,	Choteau, *Indian Territory*.
Valentine Louvina Pillsbury,	Manhattan, Riley.
Martha S. Pittman,	Hammond, Bourbon.
Gerald C. Pohlman,	Ellsworth, Ellsworth.
Alpha Inez Porter,	Manhattan, Riley.
William Earl Porter,	Courtland, Republic.
William Carl Potter,	Vermillion, Marshall.
Weston Mack Posey,	Larned, Pawnee.
Ralph Emmerson Powers,	Marion, Marion.
H. Kelley Pratt,	Gaylord, Smith.
Stella M. Preston,	Irving, Marshall.
Alma Rose Randle,	Bala, Riley.
Charles Clinton Randle,	Bala, Riley.
Elizabeth Randle,	Bala, Riley.
Lulu Mahala Rannells,	Manhattan, Riley.
John C. Reasoner,	Reserve, Brown.
Harry Earl Reed,	Stockton, Rooks.
Florence E. Rehfield,	Manhattan, Riley.
Claude Reynolds,	Jewell, Jewell.
Bertie Fay Richards,	Tyner, Smith.

Name.	Post-office and county (or state).
Edward Richards,	Manhattan, Riley.
James Richards,	Manhattan, Riley.
Melvin Rinehart,	Smith Center, Smith.
Nellie Pearl Robbins,	Manhattan, Riley.
Albert Finis Roberts,	Morrill, Brown.
Jesse Ed. Rodkey,	Blue Rapids, Marshall.
Mary Roll,	Alta Vista, Wabaunsee.
Emmet Ross,	Manhattan, Riley.
Jay F. Ross,	Manhattan, Riley.
Worth D. Ross,	Manhattan, Riley.
Carl E. Rouse,	Beloit, Mitchell.
John Michael Ryan,	Muscotah, (Jackson).
Elmer D. Samson,	Quinter, Gove.
George Arthur Savage,	Meredith, Cloud.
Oscar Arthur Savage,	Bluff Springs, *Illinois.*
Daisy Sawyer,	Fairview, Brown.
Walter Ray Schenck,	Tonganoxie, Leavenworth.
Anna Bertha Schuler,	Lawrence, Douglas.
George Winfield Scott,	Gradan, Graham.
Mamie Gardiner Scott,	Arkansas City, Cowley.
Rollins Leroy Scott,	Carrollton, *Illinois.*
Robert L. Seaton,	Abilene, Dickinson.
Carl Oliver Selig,	El Dorado, Butler.
Earl Locke Shattuck,	Holton, Jackson.
Rollie Shirley,	Perry, Jefferson.
Clayton Shomber,	Homewood, Franklin.
Sada Hart Shuler,	Halstead, Harvey.
Jessie Ray Shumway,	Manhattan, Riley.
Walter Alvin Simpson,	Manhattan, Riley.
Perle Harrison Skinner,	Jewell, Jewell.
Curtis Avery Smith,	Manhattan, Riley.
Emily G. Smith,	Childress, *Texas.*
Jay Latimer Smith,	Ozawkie, Jefferson.
Ned Smith,	Manhattan, Riley.
Ruth Anna Smith,	Manhattan, Riley.
Frank Sorgatz,	Concordia, Cloud.
Harry Spears,	Richmond, Franklin.
Leslie V. Spiller,	Beattie, Marshall.
Samuel George Stead,	Preston, Pratt.
Mabel Stevens,	Humboldt, Allen.
Arthur Lee Stevenson,	Hepler, Crawford.
Bruce Stewart,	Plattsburg, *Ohio.*
Claudius Stewart,	North Topeka, Shawnee.
Albert Stoddard,	Manhattan, Riley.
Grace Elizabeth Streeter,	Milford, Geary.
Lyman Bradley Streeter,	Milford, Geary.
Anshelm J. Strom,	Dwight, Morris.
Hiram W. Strong,	Wichita, Sedgwick.
Janie Strong,	Kensington, Smith.
Mary E. Strong,	Kensington, Smith.
Durward Stuber,	Wilmot, Cowley.
William James Sturgeon,	Emerson, *Iowa.*

Name.	Post-office and county (or state).
Charles Edward Stutzman,	McPherson, McPherson.
Daniel Charles Sullivan,	Ulysses, Grant.
Anna Swart,	Manhattan, Riley.
Bertha Florence Sweet,	Manhattan, Riley.
Agnes Taylor,	Abilene, Dickinson.
Irene Alma Taylor,	Chapman, Dickinson.
James Melvin Taylor,	Eureka, Greenwood.
May Tempero,	Clay Center, Clay.
Alvah C. Thompson,	Edmond, Norton.
Arthur H. Thompson,	Sedro Woolley, *Washington.*
Mabel Addie Thompson,	Manhattan, Riley.
Raymond Charles Thompson,	Manhattan, Riley.
Fred J. Thomson,	Manhattan, Riley.
Anna C. Throbeck,	Norway, Republic.
Willie Clide Thurlow,	Oxford, Sumner.
Earle Thurston,	Manhattan, Riley.
Elbert Wren Thurston,	Manhattan, Riley.
S. Ray Tilbury,	Arkansas City, Cowley.
Doris M. Train,	Manhattan, Riley.
Sadie Mae Travis,	Oakley, Logan.
Allan Raymond Trobert,	Manhattan, Riley.
Maude May Trobert,	Manhattan, Riley.
Tillie Trunk,	Caldwell, Sumner.
Elliott Garfield VanEveren,	Manhattan, Riley.
Lucy Faye VanEveren,	Manhattan, Riley.
Gordon L. Voiles,	Manhattan, Riley.
Alvin Henry Waage,	Le Roy, Coffey.
Samuel J. Waldorf,	El Dorado, Butler.
Robert Walker,	Hubbell, *Nebraska.*
Daniel Walters,	Manhattan, Riley.
Frank Hannibal Walters,	Manhattan, Riley.
Florence Edith Ward,	North Topeka, Shawnee.
James R. Wear,	Barnard, Lincoln.
Chauncey Iles Weaver,	Wakefield, Clay.
Hall D. Webster,	Manhattan, Riley.
Charles Miller Weeks,	Lincoln, Lincoln.
Roy D. Welstead,	Mayview, Jewell.
Julia Verona Wendel,	Beattie, Marshall.
Helen Clara Westgate,	Manhattan, (Geary).
Anna Jane Whipple,	Olivet, Osage.
Arthur Chase White,	Delphos, Ottawa.
Ralph Richard White,	Newton, Harvey.
Solomon Whitney,	Manhattan, Riley.
John Henry Willig,	Pavilion, Wabaunsee.
Vesta Williston,	Manhattan, Riley.
Carl Emory Wilson,	Emmons, Washington.
Fred D. Wilson,	Murdock, Butler.
Lawrence Lyle Wilson,	Murdock, Butler.
Ray C. Wilson,	Murdock, Butler.
Eleanor Cornelia Winne,	Manhattan, Riley.
James Harlan Wolcott,	Garfield, Pawnee.
Cora E. Wood,	Freeport, Harper.

Name.	Post-office and county (or state).
Cora Etta Wood,	Manhattan, Riley.
Elsie Jane Wood,	Ogden, Riley.
Alba M. Woods,	Saint George, Pottawatomie.
John Lyman Woods,	Saint George, (Riley).
James Percy Worsley,	Maplehill, Wabaunsee.
George Leroy Wright,	Marvin, Phillips.
Guy Yerkes,	Hutchinson, Reno.
Clifford C. Young,	Manhattan, Riley.
James Walter Zahnley,	Dwight, Morris.
Asa Calvin Zimmerman,	Moray, Doniphan.

PREPARATORY.

John Jacob Abrahams,	Formosa, Jewell.
Ethel Alexander,	Manhattan, Riley.
Carrie Anderson,	Blue Rapids, Marshall.
Charles J. Anderson,	Cleburne, Riley.
Ruben Hartley Anderson,	Riverdale, Sumner.
Will Anderson,	Osage City, Osage.
Winfield Scott Armstrong,	Topeka, Shawnee.
May Asbury,	Topeka, Shawnee.
Phœbe Amelia Aspelin,	Dwight, Geary.
Eppa Cleveland Ausherman,	Elmont, Shawnee.
Ruben Oliver Axelton,	Randolph, Riley.
Andrew O. Bacus,	Ness City, Ness.
Emily Josephine Baker,	Protection, Comanche.
Homer Emory Baker,	Washington, Washington.
Charles L. Baltzer,	Goessel, (McPherson).
William P. Barber,	Windom, McPherson.
Francis Alva Barnett,	Emporia, Lyon.
Walter Andrew Bartholf,	Grandcane, *Louisiana.*
Myrtle Bartlett,	Saint Marys, Pottawatomie.
Benjamin Franklin Bayles,	Manhattan, Riley.
Harry Garfield Beall,	Grantville, Jefferson.
Martin J. Bengston,	Windom, McPherson.
Louis Berges,	Onaga, Pottawatomie.
Ida Adelia Blachly,	Leonardville, Riley.
Frank Blaylock,	Saint Clere, Pottawatomie.
Daniel Bohnsack,	Eudora, Douglas.
Arminta H. Breckbill,	Detroit, Dickinson.
Mary Brookens,	Harlan, Smith.
Bessie Marie Brooks,	Keats, Riley.
George E. Brooks,	Marysville, Marshall.
Leonard Brown,	Manhattan, Riley.
Louis Brown,	Manhattan, Riley.
Wallace Bull,	Marysville, Marshall.
Alfred L. Burdett,	Rosemont, Osage.
Fred Lee Burns,	Walnut, Bourbon.
William Burtner,	Manhattan, Riley.
Melvie Cahill,	Randall, Jewell.
Charley Caldwell,	Kincaid, Anderson.
George William Caldwell,	Tyner, Smith.
Lee Milton Campbell,	Manhattan, Riley.

Name.	Post-office and county (or state).
Jesse R. Chapple,	Chanute, Neosho.
Claud F. Cheney,	Fort Scott, Bourbon.
C. Grace Clarkson,	Fairport, Russell.
Lyman Joel Coffman,	Emporia, Lyon.
George Alfred Collier,	Overbrook, Osage.
Lewis M. Collins,	Council Grove, Morris.
Bertha Cook,	Russell, Russell.
Walter E. Cook,	Russell, Russell.
Leroy Coon,	Reserve, Brown.
Robert Lee Cormack,	Solomon, Dickinson.
J. Leonard Cox,	Latimer, Morris.
Adelia Cree,	Manhattan, Riley.
Lulu Bird Criswell,	Manhattan, Riley.
James Wesley Crooks,	Frankfort, Marshall.
Lester Roy Davidson,	Yates Center, Woodson.
Irma Davies,	Green, Clay.
Frank Lee Davis,	Lakin, Kearny.
Jennie Singleton Davis,	Manhattan, Riley.
Mayme Davis,	Manhattan, Riley.
Merton Linden Davis,	Norton, Norton.
Lynn DeGarmo,	Great Bend, Barton.
Sadie Elizabeth Deibler,	Manhattan, Riley.
Russell DeLair,	Oketo, Marshall.
Robert L. Denny,	McLouth, Jefferson.
Chester Derry,	Saint Clere, (Jackson).
Ada Caroline DeSelm,	Manhattan, Riley.
Ida E. DeSelm,	Manhattan, Riley.
Louis C. DeSelm,	Manhattan, Riley.
Warren K. Dodge,	Manhattan, Riley.
Emma Dole,	Canton, McPherson.
Fay Douglas,	Manhattan, Riley.
Alice Marie Duncan,	Westmoreland, Pottawatomie.
Robert H. Dunn,	Paola, Miami.
Gustave Eastman,	Ogden, Riley.
Lewis Edmonds,	Topeka, Shawnee.
Guy Henry Edwards,	Phillipsburg, Phillips.
(Mrs.) Robertha Gilbert Edwards,	Woodruff, Phillips.
Fred Eigenmann,	Vermilion, Marshall.
Josa Howard Embry,	Taloga, *Oklahoma*.
Ida Erickson,	Lasita, Riley.
Justus L. Evans,	Marion, Marion.
Ruth Esther Evans,	Westmoreland, Pottawatomie.
Bessie Irene Fear,	Lasita, Riley.
John H. Fee,	Zenith, Stafford.
Harry Fetrow,	Enon, Barber.
Cydney Field,	Ionia, Jewell.
Stella Finlayson,	Summerfield, Marshall.
Ambrose L. Forsyth,	Winchester, Jefferson.
Daniel Forsyth,	Howard, Elk.
Emily Fritz,	Beattie, (Marshall).
Claide Abraham Funk,	Homewood, Franklin.
John Earnest Funk,	Homewood, Franklin.

Name.	Post-office and county (or state).
George C. Gardner,	Chanute, Neosho.
Grace Evelyn Gardner,	Homewood, Franklin.
Edwin Garrigues,	Zeandale, Riley.
Howard C. Garwood,	Clyde, Cloud.
John Christopher Geyer,	Havensville, Pottawatomie.
Harvey Allen Gibbons,	Pratt, Pratt.
Claud Demaunt Ginter,	McLouth, Jefferson.
Emil A. Gladd,	Stockholm, Wallace.
Emma Mathilda Gladd,	Stockholm, Wallace.
Daniel Albert Glenn,	Wamego, Pottawatomie.
Claude Lyman Goff,	Meeker, *Colorado.*
Thomas Jefferson Gosch,	Sterling, Rice.
George L. Graves,	Kiowa, Barber.
Loren Omer Gray,	Galena, Cherokee.
Elwood R. Griest,	Clyde, Cloud.
Charles Osborne Griffin,	Boyle, Jefferson.
Cora Alma Grimm,	Pavilion, Wabaunsee.
Ida Mae Groves,	Edwardsville, Wyandotte.
Albert Habrnal,	Manhattan, Riley.
Watson P. Handley,	Monument, Logan.
Clarence Henry Haney,	Courtland, Republic.
Charles H. Hanson,	Greenleaf, Washington.
John Milburn Hardy,	Manhattan, Riley.
Anna Grace Harrison,	Glen Elder, Mitchell.
Frank Harrison,	Topeka, Shawnee.
Sarah Elmena Harrison,	Glen Elder, Mitchell.
Harry Hart,	Fort Scott, Bourbon.
Charles C. Hastings,	Edgerton, Johnson.
Lillias Irean Hatfield,	Belleville, Republic.
Clara Cleveland Haynes,	North Topeka, Shawnee.
John Felix Heldstab,	Holland, Dickinson.
William Hemphill,	Pratt, Pratt.
Edward Henery,	Goff, Nemaha.
Nora E. Hepler,	Manhattan, Riley.
Walter E. Hinshaw,	Bannock, Edwards.
W. Curtis Hitchner,	Centralia, Nemaha.
Ethel Dula Hodges,	Saint George, Pottawatomie.
George F. C. Hoerner,	Manhattan, Riley.
Merl Holben,	Norcatur, Decatur.
Joseph Allen Hollinger,	Rhinehart, Dickinson.
Thomas Frederick Holmes,	Abilene, Dickinson.
Ada Statira Holroyd,	Manhattan, Riley.
Charles John Hull,	Kiowa, Barber.
David H. Hull,	Kiowa, Barber.
Pansy Claribel Humphreys,	Kiowa, Barber.
Clyde Earnest Huston,	Rosalia, Butler.
Orlando Delton Hutto,	Monument, Logan.
Sylva Ethol Flossy Jackson,	Garrison, Pottawatomie.
Thomas Burton Jackson,	Stockton, Rooks.
Marguerite James,	Bala, Riley.
Rosetta James,	Bala, Riley.
Romney Jewell,	Manhattan, Riley.

Name.	Post-office and county (or state).
William Jewett,	Sutton, Lane.
George Hugh Joh,	Beloit, Mitchell.
Alfred Johansen,	Codell, Rooks.
Herman Berger Johnson,	Axtell, Marshall.
Selma A. Johnson,	Axtell, Marshall.
Edna Mary Jones,	Manhattan, Riley.
Mary Lea Jones,	Wakefield, Clay.
Thomas Nelson Jones,	Plymouth, Lyon.
William Brown Jones,	Plymouth, Lyon.
Vessie May Joyner,	Manhattan, Riley.
Miner M. Justin,	Agra, Phillips.
Mintar M. Keen,	Clay Center, Clay.
David Simpson Kellogg,	Manhattan, Riley.
Clyde Kendall,	Latimer, Morris.
H. Claude Kennedy,	Fréeport, Harper.
John M. Kerr,	Orion, Gove.
Foster Klous,	Junction City, Geary.
Ruby Koger,	Manhattan, Riley.
Charles Kolsky,	Jennings, Decatur.
Emma Rosetta Lane,	Kansas City, Wyandotte.
Elvin Larson,	Marquette, (Ellsworth).
Anna Belle Lasley,	Lyons, Rice.
Lytle James Laux,	Westmoreland, Pottawatomie.
E. Frank Lemly,	Hope, Dickinson.
Winfred P. Leuszler,	Washington, Washington.
Bertha Bell Lewis,	Topeka, Shawnee.
John O. Lewis,	Clifton, Clay.
Priscilla Lewis,	Manhattan, Riley.
Katie Linhart,	Irving, Marshall.
Charles Lipperd,	Oxford, Sumner.
Albert W. Little,	Burlingame, Osage.
Charles Earl Low,	Washington, Washington.
Ernest Arthur Lund,	Manhattan, (Pottawatomie).
Frank J. Lund,	Lasita, Riley.
Ida Lund,	Lasita, Riley.
Paul C. Lyman,	Thayer, Neosho.
Mark E. McColm,	Emporia, Lyon.
Gussie McCormick,	Zeandale, Riley.
Alvena McCoy,	Meriden, Jefferson.
Nellie May McCutcheon,	Manhattan, Riley.
Ethel McDonald,	Manhattan, Riley.
Scott Roger McDonald,	Manhattan, Riley.
U. B. McGreevy,	Great Bend, Barton.
Horace A. McLaughlin,	Bronson, Allen.
Janet L. McLaughlin,	Hiawatha, Brown.
William E. McNutt,	Woodston, Rooks.
Jacob Mans,	Hanover, Washington.
William Woods Marriott,	Holton, Jackson.
Adolphus Mater,	Chanute, Neosho.
Daisy Viola Mathews,	Westmoreland, Pottawatomie.
Earnest May,	Piedmont, Greenwood.
Frank B. Mayhew,	Belpre, Edwards.

Name.	Post-office and county (or state).
Selma Melgren,	Osage City, (Lyon).
William W. Melville,	Winfield, Cowley.
Wyman A. Messenger,	Cleveland, Kingman.
Arden Lee Messick,	Oakley, Logan.
Nina Beatrice Metler,	Manhattan, Riley.
Amelia E. Miller,	Lasita, Riley.
Harry Miller,	Larkin, Jackson.
Francis Burzley Milliken,	Hill City, Graham.
Edward L. Minnis,	Wewoka, *Indian Territory.*
John Wesley Minnis,	Wewoka, *Indian Territory.*
Berton Lawrence Mitchell,	Elmont, Shawnee.
Nellie C. Mitchell,	Manhattan, Riley.
Roy V. Mitchell,	Groveland, McPherson.
Vernie Lorena Mize,	Olathe, Johnson.
George A. Moffatt,	Clyde, Cloud.
Walter Mogge,	Halifax, Wabaunsee.
Mary Emma Moore,	Americus, Lyon.
William E. Moore,	Americus, Lyon.
Theodore Edward Morlan,	Weston, Geary.
George Morris,	Council Grove, Morris.
George Ellis Moss,	Lincoln, Lincoln.
James Ira Mulock,	Mulock, *Texas.*
Heber Orla Munger,	Manhattan, Riley.
John W. Munson,	Atchison, Atchison.
George Forrest Myrick,	Howard, Elk.
Asa Oaken Nash,	Manhattan, Riley.
Daniel Lee Naylor,	Albia, Washington.
Lewis H. Neal,	Fort Scott, Bourbon.
Ralph M. Neiman,	Whitewater, Butler.
Edward Nelson,	Savonburg, Allen.
Julia Nelson,	Montrose, Jewell,
Rachel Nelson,	Montrose, Jewell.
Guy D. Noel,	Valencia, Shawnee.
Edward O'Conner,	Saint John, Stafford.
Daniel O'Neill,	Hoyt, Jackson.
Burton Sylvester Orr,	Topeka, Shawnee.
Elmer A. Palmer,	Cleburne, Riley.
Grace Palmer,	Burlingame, Osage.
Neoma Parker,	Linn, Washington.
John Edman Perkins,	Wakefield, Clay.
Grover Perry,	Clyde, Cloud.
William Pfrang,	Wetmore, Nemaha.
George Spaulding Pierce,	Owatonna, *Minnesota.*
Landon L. Platt,	Saint Joseph, *Missouri.*
Earl Porter,	Beloit, Mitchell.
Jacob Reynolds Porter,	Oronoque, Norton.
Lee Etherton Porter,	Stafford, Stafford.
Lulu Pearl Price,	Fostoria, Pottawatomie.
John Prickett,	Wamego, Pottawatomie.
Bertha Pringle,	Eskridge, Wabaunsee.
Myldred Pringle,	Eskridge, Wabaunsee.

Name.	Post-office and county (or state).
Gerry Putnam,*	Manhattan, Riley.
William Fransis Quinlan,	Newman, Jefferson.
Ralph E. Reber,	Morrill, Brown.
Mattie A. Reed,	Kanopolis, Ellsworth.
Harry S. Reynolds,	Burr Oak, Jewell.
Calbert M. Richardson,	Moline, Elk.
Estella May Rigg,	Kirwin, Phillips.
Joseph Potter Rishel,	Poe, Logan.
Ross Robb,	Jewell, Jewell.
James Roberts,	Junction City, Geary.
Jesse Smith Roberts,	Denison, Jackson.
Percy M. Roberts,	Clearwater, Sumner.
Karl Rollenhagen,	Wheaton, Pottawatomie.
Nels Rosedale,	Frankfort, Marshall.
Anselm Ruden,	Axtell, Marshall.
Logan B. Rudrauff,	Burlington, Coffey.
John Russell,	Ashton, Sumner.
Lyal E. Russell,	Redfield, Bourbon.
Lynne H. Ryon,	Wakefield, (Dickinson).
Leslie Victor Ryther,	Topeka, Shawnee.
Lawrence Guppy Sage,	Willard, Shawnee.
Clarence W. Sanders,	Osage City, (Lyon).
Federico Sarabia,	Panay, *Kalino*, *P. I.*
John Schaede,	Yates Center, Woodson.
George Schiffbauer,	Arrington, Atchison.
Hugo Schild,	Hanover, Washington.
P. B. Schmidt,*	Inman, McPherson.
Richard C. Schneider,	Hillsboro, Marion.
Carl Robert Schultze,	Melvern, Osage.
Robert Seaton,	Saint Clere, Pottawatomie.
George Edger Selby,	Westmoreland, Pottawatomie.
Hedry Lee Settle,	Basil, Kingman.
George H. Shank,	Salina, Saline.
Perry M. Sharp,	Martin City, *Missouri.*
Robert Sheldon,	North Topeka, Shawnee.
Albert Sheridan,	Emporia, Lyon.
Howard Leslie Sherman,	Manhattan, Riley.
Amelia Shimek,	Cuba, Republic.
Clinton Shotts,	Yates Center, Woodson.
Bart W. Shulda,	Cuba, Republic.
Ross Lorain Shunk,	Hutchinson, Reno.
Earl E. Shupe,	Arkansas City, Cowley.
Ella May Whitehead Simair,	Manhattan, Riley.
Jay Sitterley,	Manhattan, Riley.
Kate Minnie Sitterley,	Manhattan, Riley.
Cora Smith,	Manhattan, Riley.
Fred J. Smith,	Hamlin, Brown.
Luther Earle Snyder,	Mateer, *Oklahoma.*
Talmage Solt,	Webb City, *Missouri.*
Arthur Sooly,	Elbing, Butler.

* Deceased.

Name.	Post-office and county (or state).
Irving Ray Spencer,	Lecompton, Douglas.
Frank Jacob Spuhler,	Okarche, *Oklahoma.*
Daniel W. Steinhour,	Winfield, Cowley.
James Francis Stirrat,	Mina, Marshall.
Estella Blanche Stoeker,	Detroit, Dickinson.
William Franklin Strong,	Kensington, Smith.
Alva Stryker,	Blue Rapids, Marshall.
Clarence A. Stutzman,	McPherson, McPherson.
Ida Mae Stutzman,	McPherson, McPherson.
Elton C. Swingle,	Manhattan, Riley.
Colman Swope,	Yates Center, Woodson.
Dallas Omer Tawney,	Rantoul, Franklin.
Grace Elwis Taylor,	Rossville, Shawnee.
Benjamin W. Tempero,	Clay Center, Clay.
Samuel H. Thomas,	Bunker Hill, Russell.
John T. Throbeck,	Norway, Republic.
Carl Totten,	Throop, Washington.
Clarence William Totten,	Throop, Washington.
Archie Nolen Townsend,	Manhattan, Riley.
Lottie Townsend,	Westmoreland, Pottawatomie.
Clark Travelute,	Marysville, Marshall.
William Arthur Travis,	Manhattan, Riley.
Bernard Lee Ulrich,	Manhattan, Riley.
Ben H. VanDalsen,	Fairview, Brown.
Edward Martin VanMeter,	Northfield, *Minnesota.*
Karl VanSickle,	Fancy Creek, Clay.
Clarence Dudley Vawter,	Topeka, Shawnee.
Arthur Wagner,	Kingman, Kingman.
Frank B. Wagner,	Kingman, Kingman.
Elwood L. Walker,	Dresden, Decatur.
F R. Wallack,	Cuba, Republic.
Glen A. Warner,	Mullinville, Kiowa.
Anton Westerburg,	Savonburg, Allen.
Alfred Tollet White,	Portia, *Arkansas.*
Earl Williams,	Pawnee Rock, Barton.
Fred Lawrence Williams,	Olpe, Lyon.
James Ernest Wilson,	Eskridge, Wabaunsee.
Eugene Talbot Winship,	Trenton, *Missouri.*
John Walter Wiseman,	North Topeka, Shawnee.
Leonard E. Womer,	Womer, Smith.
Forest Lee Woods,	Mulock, *Texas.*
Charles Worrel,	Manhattan, Riley.
Bert Wright,	Ionia, Jewell.
John Yeagley,	Marion, Marion.
Clyde Yocum,	Saint John, Stafford.

SPECIAL STUDENTS.

(Mrs.) Helen K. Ashton,	Denver, *Colorado.*
Florence Nina Barger,	Smith Center, Smith.
Clinton Beck,	Kinsley, Edwards.
Emma Elizabeth Bliss,	Mankato, Jewell.
Guerdon G. Charlton,	Lawrence, (Jefferson).

Name.	Post-office and county (or state).
Edith DePriest,	Salina, Saline.
Minnie L. Forceman,	Vliets, Marshall.
Charles Mason Gear,	Clifton, Clay.
Gertrude Givens,	Manhattan, Riley.
George William Hale,	Manhattan, Riley.
Olive E. Harter,	Owatonna, *Minnesota.*
Charles Harts,	Lyons, Rice.
Kate Alice Jewett,	Udall, Cowley.
Winnie K. Likes,	Pomona, Franklin.
Alice M. Loomis,	Crete, *Nebraska.*
Andrew Martin,	Frankfort, Marshall.
Marshall H. Matts,	Homewood, Franklin.
Charles F. Miller,	Hill City, Graham.
Archie E. Moore,	Manhattan, Riley.
Lulu Gertrude O'Daniel,	Manhattan, Riley.
(Mrs.) Lena Davis Paull,	Manhattan, Riley.
Laura Christine Paulsen,	Manhattan, Riley.
Alice Virginia Potter,	Topeka, Shawnee.
Eunice Putnam,	Manhattan, Riley.
Margaret Isabel Ritner,	Manhattan, Riley.
Theodore William Romig,	Wellington, Sumner.
(Mrs.) Theodore H. Scheffer,	Manhattan, Riley.
Harvey High Schollenberger,	Wichita, Sedgwick.
Eunice Janette Skow,	Leonardville, Riley.
Milton David Snodgrass,	Manhattan, Riley.
Hal Lewis Sponsler,	Hutchinson, Reno.
Hibbard H. Thomson,	Manhattan, Riley.
Mayme G. Trimmer,	Waynoka, *Oklahoma.*
Bolivar Kernest Walters,	Manhattan, Riley.
Wilfred F. Wheeler,	Argentine, Wyandotte.
Mrs.) Anna B. Withington,	Manhattan, Riley.

DAIRY SHORT-COURSE STUDENTS.

Charles C. Andrews,	Lyle, Decatur.
Verne D. Boutwell,	Wanamaker, Shawnee.
Arthur Edward Brown,	Tonganoxie, Leavenworth.
Frederick L. Bushong,	Belpre, Edwards.
Clarence Conway,	Salina, Saline.
Walter M. Conway,	Salina, Saline.
Wilbur DeWitt Criley,	Lyndon, Osage.
Russell DeLair,	Oketo, Marshall.
Will C. DeSelm,	Oakvale, Smith.
Lawrence Edward Drown,	Manhattan, Riley.
Ralph Elder,	Osage City, Osage.
Robert Dudley Glidden,	Homewood, Franklin.
Elbert B. Hall,	Claflin, Barton.
George Earle Haney,	Williamsburg, Franklin.
John W. Holtz,	Iola, Allen.
Ben W. Jenkins,	Ottawa, Franklin.
Robert A. Ketchum,	Colby, Thomas.
Abner H. McManis,	Beloit, Mitchell.
Ellsworth McManis,	Quickville, Thomas.

Name.	Post-office and county (or state).
Chester Allen Moody,	Eudora, Douglas.
Clarence Charles Newman,	Virgil, Greenwood.
Leonard Marion Peairs,	Lawrence, Douglas.
John Edman Perkins,	Wakefield, Clay.
Frank H. Richey,	Cleveland, *Tennessee*.
John Newton Rigg,	Kirwin, Phillips.
Lawrence Riley,	Kipp, Saline.
John Elliott Ross,	Smith Center, Smith.
Lynne H. Ryon,	Wakefield, (Dickinson).
Samuel Webster Shields,	Meriden, Jefferson.
Bernie Smith,	Haven, Reno.
David Philip Smith,	Wakefield, Clay.
Cloid G. Sprigg,	Prattburg, Stafford.
John Tompkins,	Waverly, Coffey.
Alonzo F. Turner,	Oakley, Logan.
Clayborne C. Turner,	Oakley, Logan.
August J. L. Warnken,	Cunningham, Kingman.
George Everett Whitney,	Manhattan, Riley.
Hannah Worthington,	Americus, Lyon.

FARMERS' SHORT-COURSE STUDENTS—SECOND TERM.

Ralph Baker,	Saxman, Rice.
John H. Fee,	Zenith, Stafford.
Mortiermer Shontz Furst,	Peabody, Marion.
Roscoe Good,	Cimarron, Gray.
Watson P. Handley,	Monument, Logan.
Grover C. Hattan,	Mount Hope, Sedgwick.
Orlo Bertie Haven,	Belleville, Republic.
Otis Lantis,	Sedgwick, Harvey.
Tip H. Lantis,	Sedgwick, Harvey.
O. W. Minear,	Canton, McPherson.
William Nelson,	Marysville, Marshall.
Arthur E. Oden,	Sterling, Rice.
Charles Henry Ryan,	Muscotah, (Jackson).
Charles Albertis Way,	Canton, McPherson.
Leonard Wingfield,	Junction City, Geary.

FARMERS' SHORT-COURSE STUDENTS—FIRST TERM.

Carl Ames,	Diller, *Nebraska*.
H. Roy Anderson,	Bigelow, Marshall.
Harry D. Baldwin,	Erie, Neosho.
George W. Bearnes,	Salina, Saline.
Clarence Blackler,	North Topeka, Shawnee.
Meck Brazelton,	Wathena, Doniphan.
Reuben Llewellyn Butts,	Jewell, Jewell.
Arthur A. Carson,	Winchester, Jefferson.
Albert Sutcliff Culverwell,	Dentonia, Jewell.
William A. Cuthbertson,	Pittsburg, Crawford.
William Earl Dannefer,	Cuba, Republic.
George Henry DeWyke,	Randolph, Riley.
John Dickson,	Elmdale, Chase.
Roy H. Dillingham,	Hiawatha, Brown.

Name.	Post-office and county (or state).
Fred H. Doll,	Larned, Pawnee.
Charles H. Doryland,	Junction City, Geary.
William Edgar Downing,	Deerfield, Kearny.
Charles Einsel,	Greensburg, Kiowa.
Cas Nelson Estes,	Stafford, Stafford.
William H. Etherton,	Troy, Doniphan.
Edward Ellsworth Ford,	Moran, Allen.
John Wesley Fowler,	Meriden, Jefferson.
Ernest Furman,	Clearwater, Sedgwick.
Charles E. Gabrielson,	Hutchinson, Reno.
William Floyd Garrison,	Beattie, Marshall.
Charles A. Gilkison,	Larned, Pawnee.
William E. Glynn,	St. Marys, Pottawatomie.
Barton Greene,	Bazaar, Chase.
Ellis M. Hallock,	Milo, Lincoln.
Edgar Allan Hammett,	Marysville, Marshall.
Frank Hardacre,	Smith Center, Smith.
Roy Harlin,	Tonganoxie, Leavenworth.
Charles Harts,	Lyons, Rice.
Cyrus Walton Harvey,	Galena, Cherokee.
Gusta Hearn,	Hardtner, Barber.
Charles Hertach,	Claflin, Barton.
John Stuart Hill,	Melvern, Osage.
Henry Hoffhines,	Marquette, McPherson.
W. M. Hoss,	Brainerd, Butler.
Elmer J. Hughes,	Lawrence, Jefferson.
Clyde Earnest Huston,	Rosalia, Butler.
Peter Jochumson,	Lyndon, Osage.
Oscar Johnson,	Osage City, Osage.
Cyrus Paul Jones,	Mantey, Linn.
Ross Jones,	Manchester, Dickinson.
Robert Jordan,	Caldwell, Sumner.
Joseph P. Klein,	Manhattan, Riley.
Hans Hanson Krogh,	Jamestown, Republic.
Fred W. Lamb,	Prattburg, Stafford.
H. Merle Lamborn,	Leavenworth, Leavenworth.
Harry Lancaster,	Bunker Hill, *Illinois*.
Morton H. Lancaster,	Bunker Hill, *Illinois*.
Frank J. Landis,	Abilene, Dickinson.
W. W. Clark Leach,	Meade, Meade.
John O. Lewis,	Clifton, Clay.
John Edson Love,	Arkansas City, Cowley.
Carl Emmet McKee,	Offerle, Edwards.
Horace A. McLaughlin,	Bronson, Allen.
G. M. Miller,	Cottonwood Falls, Chase.
Daniel Lee Naylor,	Albia, Washington.
Fredolph Frank Nelson,	Olpe, Lyon.
Edward O'Connor,	Saint John, Stafford.
Oscar Olson,	Osage City, Osage.
William John Ott,	Gardner, Johnson.
Ernest J. Palmer,	Geuda Springs, Cowley.
Peter Peterson,	Bremen, Marshall.

Name.	Post-office and county (or state).
William Elbridge Poor,	Chapman, Dickinson.
Lee Etherton Porter,	Stafford, Stafford.
Wilford David Porter,	Bloomington, Phillips.
George Percival Potter,	Peabody, Marion.
Edward George Pro,	Julia, Kingman.
Gwilym Thomas Protheroe,	Lebo, Coffey.
William F. Pyke,	Detroit, Dickinson.
Robert Rathgeber,	Hunter, Osborne.
C. P. Rife,	Lyons, Rice.
Thomas Jefferson Robinson,	Manhattan, Riley.
Morris Rogers,	Clyde, Cloud.
Oscar V. Roller,	Tecumseh, Shawnee.
Oscar G. Russell,	Pence, Scott.
James Scalapino,	Everest, Brown.
Sam Schlatter,	Conway, McPherson.
William C. Schlatter,	Conway, McPherson.
John Sessler,	Uniontown, Bourbon.
George H. Shank,	Salina, Saline.
John C. Shields,	Meriden, Jefferson.
Earl E. Shupe,	Arkansas City, Cowley
Ira Davis Smith,	Saint Clere, Pottawatomie.
Harry Scott Spencer,	Yates Center, Woodson.
J. Weir Steuart,	Winchester, Jefferson.
Anshelm J. Strom,	Dwight, Morris.
Sam P. Tallman,	Clearwater, Sedgwick.
Floyd Ivan Tinsley,	Canton, McPherson.
Albert L. Tombaugh,	Athol, Smith.
Harlow Gilbert VanDuser,	Fredonia, Wilson.
Edward L. Vogel,	Saint Louis, *Missouri*.
Arthur D. Wagner,	Kingman, Kingman.
Frank B. Wagner,	Kingman, Kingman.
Ray Webster,	Victor, Lincoln.
Wilbert Russell Wheeler,	Jewell, Jewell.
John Edward Wiese,	Spearville, Ford.
Charles M. Wilke,	Troy, Doniphan.
Alfred Arthur Williams,	Yates Center, Woodson.
John Walter Wiseman,	North Topeka, Shawnee.
James Garfield Wright,	Marvin, Phillips.
Clyde Yocum,	Saint John, Stafford.
Edgar York,	Dunlap, Morris.
Oscar York,	Dunlap, Morris.
David H. Zuck,	Mount Carroll, *Illinois*.

DOMESTIC SCIENCE SHORT-COURSE STUDENTS—SECOND TERM.

Addie Adams,	Ozawkie, Jefferson.
Dora Eva Allman,	Ellis, (Trego).
Grace Bicknell,	Hoisington, Barton.
Margaret Bigelow,	Yates Center, Woodson.
Effie Alma Crawford,	Paola, Miami.
Minnie Bertha Doll,	Larned, Pawnee.
Leonora Darlin Eggen,	Florence, Marion.
Anna Hawkinson,	Randolph, Riley.

Name.	Post-office and county (or state).
Sadie Elizabeth Knight,	Manhattan, Riley.
Winnie K. Likes,	Pomona, Franklin.
Laura Markham,	Throop, Washington.
Mary Edith Morrow,	Blue Rapids, Marshall.
Alice Virginia Potter,	Topeka, Shawnee.
Edna Rader,	Manhattan, Riley.
(Mrs.) Anna B. Withington,	Manhattan, Riley.
Reba Wolf,	Manhattan, Riley.
Alba M. Woods,	Saint George, Pottawatomie.
Hannah Worthington,	Ackerland, Leavenworth.

DOMESTIC SCIENCE SHORT-COURSE STUDENTS—First Term.

Maud E. Allingham,	Manhattan, Riley.
Lucy M. Ashcraft,	Manchester, Dickinson.
Jessie Mary Ballou,	Delphos, Ottawa.
Kate Levenia Campbell,	Manhattan, Riley.
Ollie Collier,	Emporia, Lyon.
Gertrude Crippen,	Council Grove, Morris.
Eva L. Davidson,	Yates Center, Woodson.
Josie Davidson,	Yates Center, Woodson.
Abbie Dearborn,	Manhattan, Riley.
Nellie June Doane,	Manhattan, Riley.
Florence May Felton,	McPherson, McPherson.
Minnie L. Forceman,	Vliets, Marshall.
Evelyn Brown Franklin,	Manhattan, Riley.
Grace Evelyn Gardner,	Homewood, Franklin.
Emma A. Hanson,	Olsburg, Pottawatomie.
Hilma Hanson,	Olsburg, Pottawatomie.
Emmeline Hildenbrand,	Ellsworth, Ellsworth.
Wilhelmina Hildenbrand,	Ellsworth, Ellsworth.
Rose Holbert,	Manhattan, Riley.
Pansy Claribel Humphreys,	Kiowa, Barber.
Hattie E. Jones,	Manhattan, Riley.
Dessie Kuns,	McPherson, McPherson.
Emma Rosetta Lane,	Kansas City, Wyandotte.
Vida Lucile McAfee,	Topeka, Shawnee.
Alvena McCoy,	Meriden, Jefferson.
Charlotte Ethel Merritt,	Manhattan, Riley.
C. Louise Merritt,	Manhattan, Riley.
Jennie Emma Mitchell,	Florence, Marion.
Mabel E. Moffatt,	Clyde, Cloud.
Loulu Alberta Moore,	Haven, Reno.
Nona Estella Moore,	Cherryvale, Montgomery.
Birdie Peckham,	Haven, Reno.
Mary M. Petty,	Manhattan, Riley.
Frances Zoe Rhoades,	Gardner, Johnson.
Lizzie Richel,	Williamsburg, Franklin.
Margery Evelyn Russell,	Pence, Scott.
Hattie J. Schoonover,	Haven, Reno.
Lou Belle Shirley,	Perry, Jefferson.
Ethel Louise Smith,	Kansas City, Wyandotte.
Mabel Smith,	Logan, Phillips.

Name.	Post-office and county (or state).
Amanda D. Swanson,	Axtell, Marshall.
Norah L. Taylor,	Berryton, Shawnee.
Elsie Annette Uhl,	Gardner, Johnson.
Grace Voiles,	Manhattan, Riley.
Georgiana Welstead,	Mayview, Jewell.

APPRENTICES IN SHOPS.

Hawley Howard Akin,	Manhattan, Riley.
G. Homer Brown,	Arkansas City, Cowley.
Howard Frank Butterfield,	Manhattan, Riley.
Edgar Hamilton Dearborn,	Silver Lake, Shawnee.
Julius W. Dinse,	Elmo, Dickinson.
Byron L. Evans,	Mankato, Jewell.
D. N. Gish,	Bainbridge, *Pennsylvania.*
John V. Goodsheller,	McPherson, McPherson.
John Otto Greenwalt,	Princeton, Franklin.
Charles Osborne Griffin,	Boyle, Jefferson.
Charles Frank Haas,	Neodesha, Wilson.
John Julus Hanson,	Burns, Marion.
Sam E. Judd,	Manchester, Dickinson.
Roscoe R. Keeler,	Ottawa, Franklin.
Harry Ancil Kennedy,	Lawrence, Douglas.
Orrin O. Kennedy,	Lawrence, Douglas.
John Henry Kindsvater,	Manhattan, Riley.
George Kubin,	McPherson, McPherson.
Van J. Kubin,	McPherson, McPherson.
Emmet Leroy Locke,	Riley, Riley.
Mark E. McColm,	Emporia, Lyon.
Charles E. McLaughlin,	Newton, Harvey.
Fred Evert McManis,	Manhattan, Riley.
Fred Marty,	Longford, Clay.
Joseph A. Ozbun,	Breeze, *Missouri.*
Carl Peter August Palmer,	Manhattan, Riley.
John Thompson Parker,	Lakin, Kearny.
John Edman Perkins,	Wakefield, Clay.
Abraham F. Regier,	Moundridge, (Harvey).
Federico Sarabia,	Panay, *Kalino, P. I.*
Howard Leslie Sherman,	Manhattan, Riley.
James N. P. Smith,	Sterling, Rice.
Jacob Socolofsky,	Tampa, Marion.
Frank T. Spencer,	Gypsum, Saline.
Arthur Leroy Stauffer,	South Haven, Sumner.
Chester A. Steele,	Manhattan, Riley.
John Stegaman,	Dresden, Decatur.
Robert Maxwell Sutters,	Gideon, Douglas.
John Isaac Thomas,	Millerton, Sumner.
Hibbard H. Thomson,	Manhattan, Riley.
John T. Throbeck,	Norway, Republic.
William A. Turner,	Rock Creek, Jefferson.
Ralph Kirkland Ware,	Manhattan, Riley.
Andrew Charles Wenger,	Russell, Russell.
Nelson B. Wilson,	Fort Scott, Bourbon.
Scott Wilson,	Ozawkie, Jefferson.

BOILER AND ENGINE APPRENTICES.

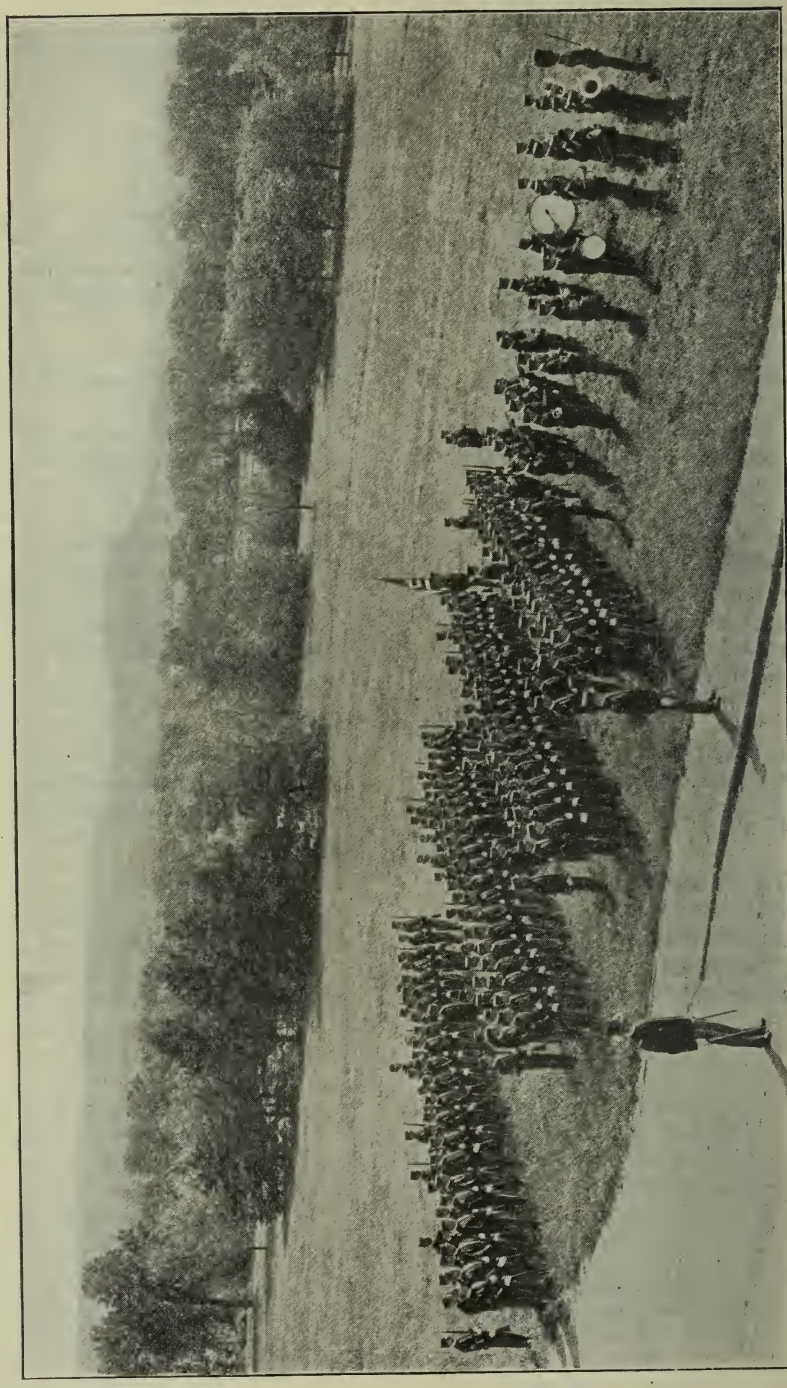
Name.	Post-office and county (or state).
John Jacob Abrahams,	Formosa, Jewell.
Charles A. Ahlberg,	Morganville, Clay.
Cecil L. Amick,	Stockton, Rooks.
Harry E. Bowen,	Lawrence, Douglas.
Benjamin Franklin Britton,	Fort Worth, *Texas*.
Lee Milton Campbell,	Manhattan, Riley.
Charles Cook,	Great Bend, Barton.
Roysel Darrow,	Asherville, Mitchell.
Howard P. Duncan,	Westmoreland, Pottawatomie.
Ben T. Farman,	Neosho Falls, Woodson.
Charles Mason Gear,	Clifton, Clay.
O. M. Goodrich,	Mankato, Jewell.
Charles A. Harter,	Independence, Montgomery.
Henry C. Hodgson,	Little River, Rice.
Silas Edman Jeter,	Saint Clere, Pottawatomie.
J. A. McGreagor,	Haddam, Washington.
L. E. Marvin,	Bennington, Ottawa.
John W. Munson,	Manhattan, Riley.
Robert W. Oakes,	McPherson, McPherson.
Hugh Oliver,	Carson, Pottawatomie.
Aaron Peterson,	Windom, Rice.
Benjamin C. E. Roberson,	Belle Plaine, Sumner.
Francis Ralph Wicks,	Hunnewell, Sumner.
Charles H. Yost,	Chester, *Nebraska*.

APPRENTICES IN PRINTING.

Bertha May Dana,	Manhattan, Riley.
Albert J. Dobson,	Kansas City, *Missouri*.
Azelia Lewis,	Blue Rapids, Marshall.

APPRENTICES IN DAIRYING.

Gustave Eastman,	Ogden, Riley.
Robert A. Ketchum,	Colby, Thomas.
Ellsworth McManis,	Quickville, Thomas.
John Tompkins,	Waverly, Coffey.
George Everett Whitney,	Manhattan, Riley.



COLLEGE BAND AND BATTALION.

SUMMARY.

Classes.	Men.	Women.	Totals.
Graduate	13	11	24
Senior	57	29	86
Junior	97	44	141
Sophomore	152	77	229
Freshman	326	145	471
Preparatory	255	87	342
Special	16	20	36
Dairy	37	1	38
Farmers' short course	123	.....	123
Domestic science short course	.....	63	63
Apprentices	76	2	78
Counted twice	43	14	57
Totals	1,109	465	1,574

From 90 counties of Kansas, 1486.
From 21 other states, 88.

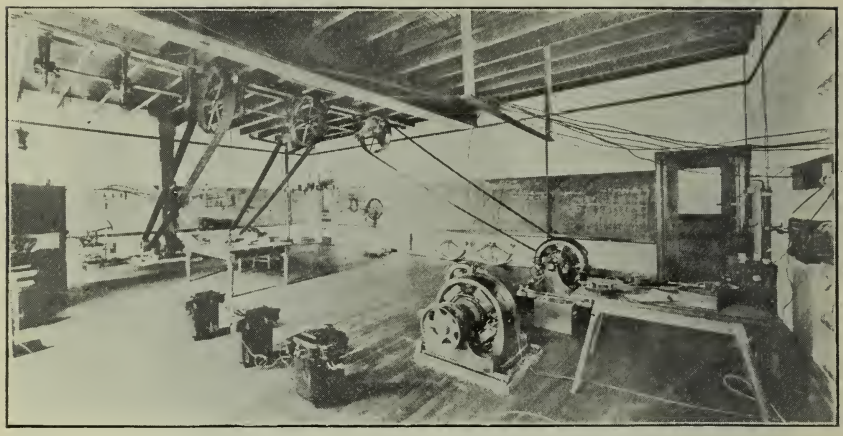
RECORD OF ATTENDANCE, 1879–1903.

College Year.	Domestic science short course	Farmers' short course	Dairy	Apprentice	Special	Preparatory*	First year	Second year	Third year	Fourth year	Postgraduate	Counted twice	Total	Graduated
1878–79	....	....	....	....	1	.....	89	89	16	12	.....	...	207	9
1879–80†	....	....	....	....	1	.....	166	61	35	11	2	...	276	7
1880–81‡	....	....	....	....	6	.....	178	48	24	9	2	...	267	8
1881–82	....	....	....	....	5	.....	227	50	19	11	.....	...	312	9
1882–83	....	....	....	....	4	.....	241	60	30	12	.....	...	347	12
1883–84	....	....	....	....	2	.....	255	92	26	18	2	...	395	17
1884–85	....	....	....	....	2	.....	271	71	36	16	5	...	401	14
1885–86	....	....	....	....	1	.....	273	91	35	24	4	...	428	21
1886–87	....	....	....	....	...	.....	303	100	44	24	10	...	481	21
1887–88	....	....	....	....	...	.....	305	92	46	27	2	...	472	22
1888–89†	....	....	....	....	...	.....	266	103	41	28	7	...	445	25
1889–90	....	....	....	....	1	.....	307	105	63	28	10	...	514	27
1890–91†	....	....	....	....	...	.....	343	135	50	53	12	...	593	52
1891–92	....	....	....	....	...	.....	336	139	62	37	10	...	584	35
1892–93	....	....	....	....	...	.....	339	110	66	43	29	...	587	39
1893–94	....	....	....	....	...	.....	275	141	72	42	25	...	555	39
1894–95	....	....	....	....	5	.....	276	108	89	64	30	...	572	57
1895–96	....	....	....	....	3	.....	353	121	67	71	32	...	647	66
1896–97*	....	....	....	....	6	67	321	163	69	62	46	...	734	55
1897–98	....	....	6	9	15	77	316	174	77	82	57	10	803	69
1898–99	....	....	26	35	40	110	306	177	92	65	40	21	870	53
1899–00†	24	47	57	50	32	162	376	163	109	69	27	22	1,094	58
1900–01	47	109	72	79	23	318	348	183	80	74	40	52	1,321	69
1901–02	41	125	66	87	19	298	396	206	120	65	32	59	1,396	52
1902–03	63	123	38	78	36	342	471	229	141	86	24	57	1,574	...

* Previous to 1896–'97 the preparatory students were not listed separately from the first-years.

† Requirements for admittance raised.

‡ Course strengthened.



ELECTRICAL ENGINEERING LABORATORY.

GENERAL PHYSICS LABORATORY.

Graduates.

This list is made from the best data obtainable. A favor will be conferred by notifying the College Secretary of any errors or changes.

1867.

Henry L. Denison, A. M., 1257 Clarkson street, Denver, Colo. Official stenographer.
Belle M. (Haines) Pond, A. M., 1821 Clay street, Topeka, Kan. Housewife.
Emma L. (Haines) Bowen, A. M., Manhattan, Kan. Housewife.
John J. Points, A. M., Omaha, Neb. Lawyer.
Martha A. (White) Abbott, A. M., 283 South Oakley boulevard, Chicago, Ill. Housewife.

1871.

Emily M. (Campbell) Robinson, A. B. Died in 1877.
Ella F. (Denison) Whedon, A. B., 1845 D street, Lincoln, Neb. Housewife.
Luella M. Houston, A. B., Denver, Colo.
Charles O. Whedon, B. S., 1845 D street, Lincoln, Neb. Lawyer.
Kate E. (White) Turley, A. B., 973 Jackson boulevard, Chicago, Ill. Housewife.

1872.

Theophania M. (Haines) Huntington, A. B. Died in 1880.
Albert Todd, A. M., Presidio, Cal. Captain artillery corps, United States army.
S. Wendell Williston, A. M., M. D., Ph. D., Chicago, Ill. Professor of paleontology in the University of Chicago.

1873.

Eliza R. (Davis) Stringfield, A. B., 1111 Santee street, Los Angeles, Cal. Housewife.
Sam Kimble, A. B., Manhattan, Kan. Judge twenty-first district.

1874.

Harry A. Brous, A. M., M. D., Manhattan, Kan. Physician.
Edgar F. Clark, A. B., New Whatcom, Wash. Lawyer and post-office inspector.
John E. Davis, B. S., D. D. S., 737 Oak street, Columbus, Ohio. Dentist.
William D. Gilbert, A. B., Atchison, Kan. Lawyer; inspector of rural free-delivery routes.
A. Judson White, A. B., 288 Oakley boulevard, Chicago, Ill. Minister.

1875.

Reuben E. Lofinck, B. S., Manhattan, Kan. Merchant.
Alice E. (Stewart) Points, A. M. Teacher.

1876.

George A. Gale, A. B., Mangona, Fla. Merchant and postmaster.
Ella M. (Gale) Kedzie, A. B., Lansing, Mich. Teacher of art.
Nellie (Sawyer) Kedzie Jones, M. S., Berea, Ky. Housewife.
Carrie M. Kimball, A. B., Garden Grove, Cal. Art instructor.
Minerva E. Whitman) Heiser, A. B., Lyndon, Kan. Housewife.

1877.*

Ella S. Child, Manhattan, Kan. Dressmaker.
George H. Failyer, M. S., Washington, D. C. Scientist in bureau of soils, United States Department of Agriculture.
John S. Griffing, M. S., Manhattan, Kan. Merchant.
Walter C. Howard, Ione, Amador county, California. Minister.
Frederick O. Hoyt. Died in 1884.
Louis E. Humphrey, Chapman, Kan. Druggist.
James F. La Tourette, Idaho Springs, Colo. Miner.
Marion F. Leasure, LL. B., La Cygne, Kan. Lawyer.
William Ulrich, M. S.

1878.*

Albert N. Godfrey, M. S., Port Townsend, Wash. United States customs service.
Charles S. McConnell. Died in 1902.
George S. Platt. Died in 1878.
Amos E. Wilson, Leavenworth, Kan. Banker.

1879.*

Arthur T. Blain, Monrovia, Cal. Nurseryman.
Etta (Campbell) Blain, Monrovia, Cal. Housewife.
Wilmer K. Eckman, Longview, Tex. Bank cashier.
Corvin J. Reed, St. Clere, Kan. Farmer.
Harry C. Rushmore, 2028 North Fifth street, Kansas City, Kan. Commercial traveler.
Wm. H. Sikes, Leonardville, Kan. Merchant and grain dealer.
Lewis A. Salter, Carmen, Okla. Lawyer.
Ella (Vincent) McCormick, Broughton, Kan. Bookkeeper.
Clarence E. Wood, A. B., Cherokee, Okla. Editor.

1880.*

Augustine Beacham, Seattle, Wash. Principal of schools.
Lizzie R. (Cox) Kregar, Milford, Kan. Housewife.
Emma (Hoyt) Turner, Peru, Ill. Housewife.
Emma (Knostman) Huse, Manhattan, Kan. Housewife.
Grace (Parker) Perry, Pocatello, Idaho. Housewife.
Noble A. Richardson, San Bernardino, Cal. Superintendent of city schools.
Maria E. (Sickels) Davis, Chicago, Ill. Housewife.

1881.*

Flora (Donaldson) Reed, St. Clere, Kan. Housewife.
Ulysses G. Houston.
Fletcher M. Jeffrey, Globe building, Seattle, Wash. Lawyer.
William J. Jeffrey. Died in 1900.
Darwin S. Leach, ———, Africa.
William J. Lightfoot, 307 May street, Cripple Creek, Colo. United States examiner of surveys.
Dalinda (Mason) Cotey, Logan, Utah. Professor of domestic arts, State Agricultural College of Utah.
Wirt S. Myers, 209 Marion street, Tampa, Fla. Furniture manufacturer.

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*B. S. has been granted all graduates since 1877.

1882.*

J. Chester Allen. Died in 1885.
Ida (Cranford) Sloan.
Edward V. Cripps.
Warren Knaus, M. S., McPherson, Kan. Editor.
Mattie E. (Mails) Coons, Manhattan, Kan. Housewife.
Allie S. (Peckham) Cordry, Hutchinson, Kan. Housewife and art teacher.
Belle (Selby) Curtice, 604 American Bank building, Kansas City, Mo. Housewife.
Burton L. Short, Kansas City, Kan. Assistant postmaster.
John A. Sloan.

1883.*

James W. Berry, Jewell, Kan. Lumberman and contractor; Regent Kansas State Agricultural College.
Mary C. Bower, Manhattan, Kan. Clerk.
Lewis W. Call, LL. M., D. C. L., Washington, D. C. Chief clerk judge-advocate general's office, United States War Department.
Emma E. Glossop, 503 Antoine street, St. Joseph, Mo. Teacher.
William J. Griffing, Manhattan, Kan. Farmer and fruit-grower.
Phœbe E. Haines, M. S., Manhattan, Kan. At home.
Hortense L. (Houston) Martin, Miami, I. T. Housewife.
Jacob Lund, M. S., Manhattan, Kan. Superintendent of heat and power department, Kansas State Agricultural College.
Katie I. (Meguire) Sheldon, Riverside, Cal. Housewife.
J. Dana Needham, Lane, Kan. Merchant.
Milan T. Ward, M. D., Orion, Ill. Physician.
Julius T. Willard, M. S., Manhattan, Kan. Professor of chemistry, Kansas State Agricultural College; director Experiment Station.

1884.*

Emmett S. Andress, Lakin, Kan. Farmer.
Florence J. Brous, Kansas City, Kan. Teacher in high school.
Bartholomew Buchli, M. S., D. V. S., Alma, Kan. Farmer and stockman.
John H. Calvin, LL. B. Died in 1898.
William A. Corey, Salt Lake City, Utah. Teacher and editor.
Henry M. Cottrell, M. S., Odebolt, Iowa. Superintendent of seed department of Cook's farm.
Carrie F. (Donaldson) Brown, Portland, Ore. Housewife.
Florence A. Donaldson. Died in August, 1888.
Frank W. Dunn, Magdalena, Sonora, Mexico. Assayer.
I. Day Gardiner. Died in 1899.
Edwin H. Kern, Grand Junction, Colo. Farmer and abstracter.
Marion M. Lewis. Died in 1895.
Charles L. Marlatt, M. S., 1440 Massachusetts avenue, Washington, D. C. Assistant chief, division of entomology, United States department of agriculture.
Lincoln H. Neiswender, Silver Lake, Kan. Farmer.
Geo. C. Peck, Junction City, Kan. Feed dealer.
Hattie L. (Peck) Berry, Jewell, Kan. Housewife.
John W. Shartel, Oklahoma City, Okla. Lawyer.

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1885.*

Thomas Bassler, Batchelder, Okla. Horticulturist.
Albert Deitz, 720 West Twenty-first street, Kansas City, Mo. Merchant.
Geo. E. Hopper, M. S., Arkansas City, Kan. Contractor.
Florence F. Hough, Great Bend, Kan.
Frank A. Hutto, M. S., Ph. D., Stillwater, Okla. Professor of history and economics, Oklahoma Agricultural and Mechanical College.
J. Allen Lewis, M. S., C. E., 328 Fourth street, Brooklyn, N. Y. Civil engineer.
Nellie J. Murphy, South Denver, Colo. Trained nurse.
Arthur L. Noyes, Wabaunsee, Kan. Farmer.
Clarence D. Pratt, Dallas, Tex. General agent paint company.
Rollin R. Rees, Minneapolis, Kan. Attorney.
Frederick J. Rogers, M. S., Palo Alto, Cal. Assistant professor of physics, Leland Stanford Jr. University.
Dorothy E. C. (Secrest) Hungerford, Randolph, Kan. Housewife.
Grace Wonsetler, M. D. Physician.
Effie E. (Woods) Shartel, Oklahoma City, Okla. Housewife.

1886.*

Lillie B. Bridgman, M. S., corner Sixteenth and Utah streets, San Francisco, Cal. Professor of physics, California School of Mechanic Arts.
Louis P. Brous, M. S., Mexico City, Mexico. Architect.
Paul H. Fairchild, M. D., 178 Fulton street, New York city. Publisher of medical journals and president of Pulvola Chemical Company.
Abbott M. Green, Lookout, Modoc county, California. Civil engineer and teacher.
James G. Harbord, M. S., Manila, P. I. Captain, Eleventh U. S. cavalry, division of insular affairs, War Department.
John U. Higinbotham, 205 La Salle street, Chicago, Ill. Cashier National Biscuit Company.
Maria C. (Hopper) Getty, Downs, Kan. Housewife.
E. Ada (Little) MacEwan, Kalamazoo, Mich. Housewife.
Frank L. Parker, Hutchinson, Kan. Merchant.
Edward H. Perry, Oklahoma City, Okla. Editor and publisher.
H. Augustus Platt. Died in 1903.
Ada H. (Quinby) Perry, Oklahoma City, Okla. Housewife.
Ida H. (Quinby) Gardiner, 1514 Laguna street, Santa Barbara, Cal. Housewife.
Minnie Reed, M. S., 1515 N. Main street, Santa Ana, Cal. Teacher in high school.
David G. Robertson, 100 Washington street, Chicago, Ill. Lawyer.
Edward O. Sisson, Peoria, Ill. Director Bradley Polytechnic Institute.
John W. Van Deventer, Sterling, Colo. Editor and publisher.
George W. Waters, Dillon, Colo. Ranchman.
William E. Whaley, 5467 Lexington avenue, Chicago, Ill. Dean and instructor in history, South Side Academy.
F. Henrietta (Willard) Calvin, Manhattan, Kan. Librarian Kansas State Agricultural College.
John L. Wise, East St. Louis, Ill. Merchant.

1887.*

Edgar A. Allen, Carlisle, Pa. Assistant superintendent of Indian school.
Fred H. Avery. Died in 1896.
Claude M. Breese, M. S., Manhattan, Kan. County clerk.

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John B. Brown, M. S., Morris, Minn. Supt. of Morris Indian Training School.
Walter J. G. Burtis, Fredonia, Kan. Farmer.
Mark A. Carleton, M. S., Washington, D. C. Cerealist in bureau of plant industry, United States Department of Agriculture.
Nellie E. (Cottrell) Stiles, Fullerton, Cal. Housewife.
Bert R. Elliott, Dawson City, British Yukon Territory. Miner.
Frederick B. Elliott, Manhattan, Kan. Real-estate and insurance agent.
Clara M. Keyes, Warner, Cal. Teacher.
Fred. G. Kimball, St. Michaels, Alaska. Miner.
Frederick A. Marlatt, Manhattan, Kan. Proprietor Blue Valley Manufacturing Company.
William J. McLaughlin, Randolph, Utah. Editor.
Mary E. Moses, Manhattan, Kan. At home.
Charles A. Murphy, Clay Center, Kan. Teacher of science, Clay county high school.
Orlando G. Palmer, LL. M., Camp Thomas, Chickamauga Park, Lytle, Ga. Second lieutenant, Seventh United States cavalry.
Louis B. Parker. Died in 1889.
James E. Payne, M. S., Fort Collins, Colo. Field agent in charge of plains investigation, Colorado Experiment Station.
Seward N. Peck, 157 Grattan street, Topeka, Kan. Cabinet-maker, railroad shops.
George N. Thompson, Belmond, Iowa. Mechanic.
Willis M. Wright, Jennings, La. Farmer.

1888.*

Grant Arnold, Toledo, Wash. Teacher.
Bertha H. Bacheller, M. S., Kansas City, Mo. Teacher of domestic science, manual-training school.
Clement G. Clarke, Plainville, Conn. Minister.
Alexander C. Cobb, Wagoner, I. T. Farmer and carpenter.
Mattie (Cobb) Clarke, Plainville, Conn. Housewife.
Minnie H. Cowell, Steyning, Sussex, England. Trained nurse.
Lyman H. Dixon, Buffalo, N. Y. Architect.
David G. Fairchild, M. S., Washington, D. C. Agricultural explorer, United States Department of Agriculture.
Carl E. Friend, Soldier, Kan. Banker, and Regent Kansas State Agricultural College.
John R. Harrison, Washington, D. C. Post-office inspector.
Humphrey W. Jones, 1251 Lincoln street, Topeka, Kan. Teacher of music in city schools.
Nathan E. Lewis, 149 East Fifth street, Plainfield, N. Y. Draftsman.
Abbie L. Marlatt, M. S., 261 Benefit street, Providence, R. I. Teacher of domestic science manual-training school.
William C. Moore, Parsons, Kan. Editor and publisher.
Ernest F. Nichols, New York, N. Y. Professor of experimental physics at Columbia University.
Harry E. Robb, Eureka, Kan. Farmer and county surveyor.
Anna Snyder, Kansas City, Kan. Teacher in School for Blind.
Edwin H. Snyder, 2822 Indiana avenue, Denver, Colo. Editor and publisher.

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Oliver L. Utter, 72 Mount Vernon street, Boston, Mass. Student in Boston University.
Aaron Walters. Died in 1892.
Lora L. (Waters) Beeler, M. S., 2469 N. Springfield avenue, Irving Park, Chicago, Ill. Housewife.
Daniel W. Working, jr., Denver, Colo. Farmer; state board of agriculture.

1889.*

Emma A. Allen. Died in 1891.
Joseph W. Bayles, Onaga, Kan. Minister.
Walter R. Browning, Padonia, Kan. Grain dealer.
David E. Bundy, Braman, Okla. Minister.
Samuel S. Cobb, Wagoner, I. T. Cattle dealer and postmaster.
Judson H. Criswell, Manhattan, Kan. Sales clerk.
Mattie I. (Farley) Carr, Winthrop, Wash. Housewife.
Clarence E. Freeman, M. S., Chicago, Ill. Professor of electrical engineering, Armour Institute of Technology.
Hattie L. (Gale) Sanders, Mangona, Fla. Housewife.
John S. Hazen, Springfield, Mo. United States weather bureau observer.
Albert B. Kimball, Scandia, Kan. Editor and postmaster.
William Knabb, Hiawatha, Kan. Assistant bank cashier.
Mary C. Lee, Manhattan, Kan. Student Pratt Institute, Brooklyn, N. Y.
Alonzo A. Mills, Fullerton, Cal. Nurseryman.
Susan W. Nichols, 724 North Twenty-third street, St. Joseph, Mo. Bookkeeper and stenographer.
Walter H. Olin, M. S., Ames, Iowa. Assistant in farm corps, Iowa State College of Agriculture and Mechanic Arts.
Eli M. Paddleford, Birmingham, Kan. Minister.
Maude F. (Sayers) DeLand, lock box 390, Pittsburg, Pa. Housewife.
Florine (Secrest) Linderman, Willow Glen, San Jose, Cal. Housewife.
Stanley Snyder, Oskaloosa, Kan. Farmer.
Charles W. Thompson, Holton, Kan. Dentist.
Jane C. Tunnell, Joliet, Ill. Instructor in pedagogy.
Ina M. (Turner) Bruce, St. Louis, Mo. Housewife.
Robert U. Waldraven, Julian, Neb. Minister.
Henry S. Willard, M. D., Manhattan, Kan. Physician and druggist.

1890.*

Samuel I. Borton, Rocky Ford, Colo. Farm superintendent, American Beet Sugar Company.
Frank A. Campbell, Highlands, Colo. Reporter.
Arthur F. Cranston, Parsons, Kan. Lawyer.
John Davis, Alva, Okla. Professor of English and literature, Oklahoma Normal School.
Grant W. Dewey, Manhattan, Kan. Photographer.
Charles J. Dobbs, 1215 Denny Way, Seattle, Wash. Lawyer.
Charles W. Earle, 1942–48 Curtis street, Denver, Colo. Advertising agent.
Schuyler C. Harner, Keats, Kan. Merchant.
John W. Ijams, Cache, Okla. Farmer in United States Indian service.
Bertha S. (Kimball) Dickens, M. S., Manhattan, Kan. Housewife.
Eusebia (Knipe) Curtis, Council Grove, Kan. Housewife.

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Nellie P. (Little) Dobbs, 1215 Denny Way, Seattle, Wash. Housewife.
Ellsworth Thomas Martin, LL. B., Chicago, Ill. Lawyer.
Silas C. Mason, M. S., Berea, Ky. Professor of horticulture and biology, Berea College.
Wilton L. Morse, Mancos, Colo. Farmer.
Albert E. Newman, Watonga, Okla. County superintendent and editor.
Julia R. Pearce, Washington, D. C. Assistant in the soil survey, bureau of soils, United States Department of Agriculture.
Emil C. Pfuetze, Manhattan, Kan. Lumber dealer.
William H. Sanders, Mangona, Fla. Plumber and builder.
Emma Secrest, A. M. Died in 1898.
Marie Barbara (Senn) Heath, M. S., Seattle, Wash. Housewife.
Ralph Snyder, Oskaloosa, Kan. Farmer and stockman.
George E. Stoker, A. B., Topeka, Kan. Lawyer.
Walter T. Swingle, M. S. Traveling in Italy; physiologist, bureau of plant industry, United States Department of Agriculture.
Gilbert J. Van Zile. Died in 1899.
Harry N. Whitford, M. S., Botany building, Chicago, Ill. Assistant in botany, University of Chicago.
Thomas E. Wimer. Died in 1890.

1891.*

William Aaron Anderson, Kansas City, Kan. Bookkeeper for Long-Bell Lumber Company.
William Sherman Arbuthnot, D. V. S., Republic, Kan. Veterinary surgeon and druggist.
Herman William Avery, Wakefield, Kan. Farmer and merchant.
Judd Noble Bridgman, M. S., Hickman's Mills, Mo. Civil engineer.
Robert James Brock, Manhattan, Kan. Lawyer and county attorney; Regent Kansas State Agricultural College.
Francis Charles Burtis, M. S., Stillwater, Okla. Professor of agriculture and horticulture, Oklahoma Agricultural and Mechanical College.
Charles Albert Campbell, 815 Twenty-second avenue, Denver, Colo. Minister.
Spencer Norman Chaffee, Louisville, Ky. Student medical college.
Clay Ephraim Coburn, 422 North Fourth street, Kansas City, Kan. Physician.
Gertrude Coburn, Peoria, Ill. Assistant professor of domestic economy, Bradley Polytechnic Institute.
Tina Louise (Coburn) Tomson, Cedar Rapids, Iowa. Housewife.
Rachel Cailie (Conwell) Thoburn, Oklahoma City, Okla. Housewife.
Christine Mossman Corlett, Guthrie, Okla. Teacher.
Mary Emmeline (Cottrell) Payne, M. S., Fort Collins, Colo. Housewife.
Phil Sheridan Creager, 3409 McGee street, Kansas City, Mo. Wholesale flour, biscuits and produce merchant.
Kary Cadmus Davis, M. S., Ph. D., Menominee, Wis. Principal and director of the Dunn county school of agriculture.
Thomas Clarke Davis, Benedict, Kan. Farmer.
Helen Pearl (Dow) Peck, 1617 Beverley road, Brooklyn, N. Y. Housewife.
Anna (Fairchild) White, 157 Valley road, Montclair, N. J. Housewife.
Harry Benson Gilstrap, Chandler, Okla. Editor, publisher, and postmaster.
Almon Arthur Gist, Fort Riley, Kan. Telegraph operator and station agent.
Amy Myrtle (Harrington) Deibler, Leadville, Colo. Housewife.

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Delpha May (Hoop) Montgomery, Tampa, Kan. Housewife.
Mayme Amelia (Houghton) Brock, Manhattan, Kan. Housewife.
Willis Wesley Hutto, Manhattan, Kan. Painter and paper-hanger.
George Victor Johnson, Sedan, Kan. Editor.
Frank Mullett Linscott, D. V. S., Farmington, Kan. Stock-raiser.
Bessie Belle Little, Philadelphia, Pa. Teacher of physical culture, Bryn Mawr College.
Albert Edward Martin, Streator, Ill. Manager telephone company.
Nellie Evangeline (McDonald) Thayer. Died in 1902.
David Collins McDowell, Elkton, Colo. Merchant.
Alfred Midgley, Minneapolis, Kan. Clerk.
Madeleine Wade Milner, La Salle, Ill. Librarian.
Paul Chambers Milner, Carbondale, Ill. Farmer.
Harry Elbridge Moore, Kingfisher, Okla. Implement dealer.
John Otis Morse, Mound City, Kan. Lawyer and clerk of district court.
Hattie May Noyes, Manhattan, Kan. Teacher and graduate student, Kansas State Agricultural College.
Louise (Reed) Paddleford, Birmingham, Kan. Housewife.
Artemus Jackson Rudy, R. F. D. No. 1, Oleander, Cal. Fruit-raiser.
Henry Vernon Rudy, Fresno, Cal. Fruit-raiser.
Charlotte Jane (Short) Houser, M. S., [B. S. Dickinson College, Carlisle, Pa.,] Reedsville, Pa. Housewife.
Ben Skinner, M. D., Granada, Kan. Physician.
Caroline Scott (Stingley) Van Blarcom. Died in 1899.
Lillian Alice (St. John) Williams, 841 Osage avenue, Kansas City, Kan. Housewife.
Ellis Cheney Thayer, Joplin, Mo. Miner.
Sam L. Van Blarcom, M. D., 817 Garfield avenue, Kansas City, Kan. Railway postal clerk.
Frank Albert Waugh, M. S., Amherst, Mass. Professor of horticulture in Massachusetts Agricultural College.
Fannie Elizabeth (Waugh) Davis, M. S., Menominee, Wis. Housewife.
Flora Emilie Wiest, Manhattan, Kan. Teacher in city schools.
Bertha (Winchip) Spilman, 515 Second street, S. E., Washington, D. C. Housewife.
Alfred Orrin Wright, Lake Charles, La. Farmer.
Effie Jeanetta Zimmerman, M. S., Tempe, Ariz. Preceptress in the Normal School of Arizona.

1892.

Grace Maria Clark, M. S., Berea, Ky. Clerk in executive office, Berea College.
George L. Clothier, M. S., M. F., Washington, D. C. Field assistant, bureau of forestry, United States Department of Agriculture, and student in Yale School of Forestry.
Lillian Clyde Criner, McPherson, Kan. Editor.
Harry Darnell, Cosmopolis, Wash. Principal of schools.
William H. Edelblute, Rathdrum, Idaho. County surveyor and fruit-grower.
Elizabeth (Edwards) Hartley, Manhattan, Kan. Housewife.
John Frost, Schroyer, Kan. Farmer.
Effie (Gilstrap) Frazier, Chandler, Okla. Housewife.
Ava (Hamill) Tillotson, M. S., Hill City, Kan. Housewife.

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J N Harner. Died in 1897.
Loyall S. Harner, 1122 Lincoln street, Colorado Springs, Colo. Clerk.
Charles Pinckney Hartley, M. S., Washington, D. C. Assistant in physiology, bureau of plant industry, United States Department of Agriculture.
John William Abraham Hartley, Manhattan, Kan. Farmer and teacher.
James Laird McDowell, McCammon, Idaho. Farmer.
Robert A. McIlvaine, Silver Lake, Kan. Principal of schools.
Kate (Oldham) Sisson, 124 W. Fourth avenue, Columbus, Ohio. Housewife.
Daniel Henry Otis, M. S., Manhattan, Kan. Professor of animal husbandry, Kansas State Agricultural College.
Ivan Bryan Parker, M. D., Hill City, Kan. Physician, and president Graham County State Bank.
Warner S. Pope. Died in 1899.
Burton Homer Pugh, box 2, Topeka, Kan. Merchant.
Elias W. Reed, Ann Arbor, Mich. Medical student.
Robert Stirling Reed.
Arthur Daniel Rice, Oketo, Kan. Minister.
Fred C. Sears, M. S. Wolfville, Nova Scotia. Director of provincial school of horticulture.
Birdie E. Secrest, Randolph, Kan. Student at Teachers' College, New York city.
May Secrest, Stevens Point, Wis. Professor of domestic science in the Wisconsin State Normal School.
Ruth Tipton (Stokes) Sears, M. S., Wolfville, Nova Scotia. Housewife.
Harry W. Stone, Portland, Ore. General secretary Y. M. C. A.
Walter Percival Tucker, Santa Barbara, Chihuahua, Mexico, via El Paso. Accountant for mining company.
Mary Alice (Vail) Waugh, Amherst, Mass. Housewife.
Robert Lynn Wallis. Died in 1895.
Ora Rebecca (Wells) Traxler, Irving, Kan. Housewife.
Daniel F. Wickman, P. O. box 107, Topeka, Kan. Farmer.
George Washington Wildin. Mechanical engineer.
Charles Ernest Yeoman. Died in 1902.

1893.*

Edmund Clarence Abbott, Santa Fe, N. M. County attorney.
Edwin McMaster Stanton Curtis, Detroit, Mich. Clerk for Michigan Central Railroad Company.
Corinne Louise (Daly) Burtis, Stillwater, Okla. Housewife.
Laura Greeley Day, 417 Wabash avenue, Wichita, Kan. Special lecturer on domestic economy.
Ione (Dewey) Sutherland. With King Dodo Opera Company.
Albert Dickens, Manhattan, Kan. Professor of horticulture, Kansas State Agricultural College.
Mary Maud Gardiner, M. S., Stillwater, Okla. Professor of domestic science, Oklahoma Agricultural and Mechanical College.
Susie (Hall) Linscott, Farmington, Kan. Housewife.
Mary Francis Burgoyne Harman, Kansas City, Kan. Teacher of art, Kansas City high school.
Ivy Francis Harner, M. S., Ruston, La. Professor of domestic science, Louisiana Industrial Institute.

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*B. S. has been granted all graduates since 1877.

Margaretha Elise Horn, Dr. O., 335 Hubbard avenue, Detroit, Mich. Teacher of sciences, Detroit high school.
Marcia Ione Hulett, Cleveland, Ohio. Osteopathist.
Mac F. Hulett, 5½ West Broad street, Columbus, Ohio. Osteopathist.
Fred Hulse, Manhattan, Kan. Carpenter.
Charles Augustus Kimball, Courtland, Kan. Editor and lawyer.
Maud Ethel Knickerbocker, Lead, S. Dak. Teacher.
Thomas Eddy Lyon, 110½ North Fifth street, Springfield, Ill. Lawyer.
William Otis Lyon, 103 Seaton street, N. W., Washington, D. C. Clerk.
McLeod Wilson McCrea, Winchester, Kan. Farmer.
Rose Edith McDowell, Elkton, Colo. At home.
George Lane Melton, ———
Eusebia DeLong (Mudge) Thompson, Marysville, Kan. Housewife.
Nora (Newell) Hatch, R. F. D. No. 2, Manhattan, Kan. Housewife.
August Fred. Niemoller, Stitt, Kan. Teacher.
Susie Amanda Noyes. Died in 1894.
Henry Leamer Pellett, Eudora, Kan. Stock-raiser.
Charles John Peterson. Randolph, Kan. Farmer.
Carl Frederic Pfuetze, Manhattan, Kan. Lumber dealer.
John Dewitt Riddell, M. D., Enterprise, Kan. Physician.
John Albert Rokes, Holton, Kan. Lawyer.
Agnes (Romick) Edgar, Honcut, Cal. Housewife.
Fred Raymond Smith, Manhattan, Kan. Lawyer and court stenographer.
George Wildman Smith, M. D., Manhattan, Kan. Physician.
William Elmer Smith, 814 New York Life building, Kansas City, Mo. Lawyer.
John Eugene Thackrey, 2746 Belleview avenue, Kansas City, Mo. Minister.
Joseph B. Thoburn, Oklahoma City, Okla. Secretary Oklahoma Territorial Board of Agriculture.
Charles Henry Thompson, Palo Alto, Cal. Student at Leland Standford Jr. University.
George K. Thompson, Marysville, Kan. County superintendent.
William James Yeoman, Mankato, Kan. Merchant.

1894.*

Frank Weber Ames, 803 Collier street, Pittsburg, Pa. Clerk Carnegie Steel Company.
Clara Francelia Castle, M. S., Manhattan, Kan. At home.
George Luther Christensen, Houghton, Mich. Instructor in mechanical engineering, Michigan School of Mines.
John Cornelius Christensen, Manhattan, Kan. County treasurer.
Lorena Estella Clemons, Manhattan, Kan. Secretary Kansas State Agricultural College.
Martha Cottrell, Wabaunsee, Kan. At home.
Sarah Esther (Cottrell) Wright, Jennings, La. Housewife.
Alverta May Cress, Manhattan, Kan. At home.
Fannie Jane Cress, 203 Washington street, Wheaton, Ill. Artist.
Ernest A. Donaven, M. D., Mount Hope, Kan. Physician.
Jephthah W. Evans, M. D., Blue Rapids, Kan. Physician.
Isabelle Russell (Frisbie) Criswell, Manhattan, Kan. Housewife.
Eugene Leonard Frowe. Died in 1898.
Walter Harling, Lehigh, Utah.

---

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Lorena Marguerite (Helder) Morse, Manhattan, Kan. Housewife.
Mark V. Hester, Haviland, Kan.
Charles Ross Hutchings, 2821 N. Twentieth street, Omaha, Neb. Civil engineer for American Smelter and Refining Company.
Isaac Jones, jr., Etiwanda, Cal. Fruit-grower.
Stella Victoria (Kimball) Tucker, Santa Barbara, Chihuahua, Mexico, via El Paso. Housewife.
Mary Eliza (Lyman) Otis, M. S., Manhattan, Kan. Housewife.
William Henry Moore, Manhattan, Kan. Florist and horticulturist.
Sarah (Moore) Foster, 314 Melrose ave. N., Seattle, Wash. Housewife.
James Francis Odle, Manhattan, Kan. Farmer.
Charles Randolph Pearson, Collyer, Kan. Teacher.
Horace Greeley Pope, 413 and 414 Massachusetts building, Kansas City, Mo. Lawyer.
Minnie Louisa Romick, 567 Gordon street, Pomona, Cal. Principal of La Verne schools.
Winnie Luella (Romick) Chandler, R. F. D. No. 2, St. Louis, Mo. Housewife.
Victor Irvin Sandt, Wells, Minn. Principal of manual training.
John Alfred Scheel, 817 Neosho street, Emporia, Kan. Carpenter.
Jacob Ulrich Secrest, Randolph, Kan. Farmer.
Charles Chrisfield Smith, Manhattan, Kan. Real-estate agent.
Jennie Ruth (Smith) Strong, Kinsley, Kan. Housewife.
Wesley Ohio Staver, Kern, Cal. Lawyer.
John Stingley, Wichita, Kan. Commercial agent for the Ohio Cultivator Co.
John Edwin Taylor. Died in 1896.
Delbert L. Timbers, Osborne, Kan. Teacher.
Phebe Carey (Turner) Clothier, St. Marys, Kan. Housewife.
Samuel Robert Vincent, Deer Creek, Okla. Teacher.
Lucy Helena Waters, A. M., Livermore, Cal. Teacher in high school.

1895.*

Edward Jones Abell, Leonardville, Kan. Farmer and teacher.
Carl D. Adams, 719 S. Sixth street, Kansas City, Mo. Swift Packing Company.
Robert John Barnett, Manhattan, Kan. Assistant postmaster.
Burton Wesley Conrad, Sabetha, Kan. Liveryman.
Florence Ruth Corbett, foot of East Twenty-sixth street, New York, N. Y. Dietitian in the department of public charities.
Sid Henry Creager, 316 Keith & Perry building, Kansas City, Mo. Wholesale flour, biscuit and produce dealer.
Elsie Emeline Crump, Boulder, Colo. Teacher city schools.
David Thomas Davies, Riley, Kan. Farmer.
Frank Andrew Dawley, Waldo, Kan. Farmer and stock-raiser.
Daisy Day, M. S., Onaga, Kan. At home.
Flora (Day) Barnett, M. S., Manhattan, Kan. Housewife.
George Adam Dean, Manhattan, Kan. Assistant in entomology, Kansas State Agricultural College.
Lillie Christena (Dial) Falin, Cleburne, Kan. Housewife.
Lucy Ellis, Westmoreland, Kan. Teacher.
Victor Emrick, 1034 East Main street, Portland, Ore. Clerk in passenger auditing office, Oregon Railway and Navigation Company.
George Forsyth, Franklin, Ind. Sales agent.

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Ernest Harrison Freeman, Chicago, Ill. First laboratory assistant in electrical engineering at Armour Institute of Technology.
Florence Eleanor (Fryhofer) Webster, Manhattan, Kan. Housewife.
George William Fryhofer, 119 Seventeenth street, Denver, Colo. Lawyer.
Oscar Hugo Halstead, 218 South Sixth street, St. Joseph, Mo. Instructor in mathematics, Platt's Commercial College.
Hortensia (Harman) Patten, 122 Lake street, Chicago, Ill. Housewife.
John Bright Harman, Gill, Kan. Farmer.
Clarence V. Holsinger, Rosedale, Kan. Fruit-raiser.
Christian Andrick Johnson, Success, Kan. Farmer.
John James Johnson, Litchfield, Ill. Physician and insurance agent.
Fred. Ralph Jolly, Olathe, Kan. Editor of *Mirror*.
William Irving Joss, B. S. D. O., 17 Prospect street, Newark, N. Y. Physician.
Maud Estella (Kennett) Darnell, Cosmopolis, Wash. Housewife.
Myron Arthur Limbocker, Pomona, Kan. Cashier in bank.
Samuel Alexander McDowell, Elkton, Colo. Freight agent for the C. T. & T. Company, of Victor, Colo.
Laura Sara (McKeen) Smith, Russell, Kan. Housewife.
Theo. Wattles Morse, M. S , Manhattan, Kan. Soliciting editor for *Live-stock Indicator*.
Oscar Albert Otten, Fairbury, Neb. Telegraph operator.
William Hackworth Painter. Died in 1901.
Charles Wesley Pape, M. S., Box 190, Topeka, Kan.
Ethel (Patten) Ames, 803 Collier street, Pittsburg, Pa. Housewife.
John Vernon Patten, 122 Lake street, Chicago, Ill. Manufacturer.
William H. Phipps, Junction City, Kan. Salesman for Empire Separator Co.
Alice Julia (Quintard) Peck. Died in 1899.
Frederick Ellsworth Rader, Sitka, Alaska. Alaskan Experiment Station.
Ralph Waldo Rader, Fayetteville, Ark. Fruit-grower.
Ada Rice, Manhattan, Kan. Assistant in English department, Kansas State Agricultural College.
Benjamin Franklin Simeon Royer, St. Joseph, Mo. Physician.
Charles Baxter Selby, Marion, Va. Lawyer.
Mabel Gertrude (Selby) Laughlin, Ouray, Colo. Housewife.
Ernest P. Smith, box 276, Birmingham, Ala. Molder in foundry.
Frederick John Smith, Russell, Kan. Editor.
Kitty Myrtle (Smith) Wheeler, Manhattan, Kan. Housewife.
Marietta Smith, corner Park avenue and Humboldt street, Denver, Colo. Nurse in homeopathic hospital.
William Henry Steuart, Winchester, Kan. Farmer.
Cora Idella (Stump) Chaffee, Lasita, Kan. Housewife.
Dora (Thompson) Winter, 2410 E. Twenty-fourth street, Kansas City, Mo. Housewife.
Elvin Creveling Trembly, Comiskey, Kan. Farmer.
George Carpenter Wheeler, Manhattan, Kan. Herdsman for dairy husbandry department and graduate student, Kansas State Agricultural College.
Mary Elizabeth (Willard) Emrick, 1034 E. Main street, Portland, Ore. Housewife.
Olive Mabel (Wilson) Holsinger, Rosedale, Kan. Housewife.
Ora Gertrude Yenawine, Randall's Island, New York, N. Y. Instructor in sewing, New York House of Refuge.

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*B. S. has been granted all graduates since 1877.

COLLEGE TEAMS.

1896.*

May Haines Bowen, Manhattan, Kan. Instructor in mathematics, Kansas State Agricultural College.

Con Morrison Buck, M. S., Marceline, Mo. Civil engineer on Santa Fe railroad.

Margaret Isaphene (Carlton) Doane, College Park, Md. Housewife.

William Annesley Cavenaugh, Fort Leavenworth, Kan. Lieutenant company D, Twentieth infantry.

William Arthur Coe, Ford, Kan. Farmer and stock-raiser.

Charlotte Mabel (Cotton) Smith, Ames, Iowa. Housewife.

Ernest Brown Coulson, Sweetwater, Tex.

George Henry Dial, Cleburne, Kan. Teacher and farmer.

Charles Francis Doane, M. S., College Park, Md. Dairy herdsman, Maryland Agricultural College.

John Berthold Dorman, West New Brighton, N. Y. Professor of chemistry and physics, Westerleigh Collegiate Institute, and graduate student Kansas State Agricultural College.

Bradford Dougherty, 632 Minnesota avenue, Kansas City, Kan. Merchant.

Charles Silar Evans, M. D., Grand Encampment, Wyo. uperintendent of Good Shepherd hospital.

Robert Kilby Farrar, Downs, Kan. Superintendent of city schools.

George William Finley, Tonkawa, Okla. Principal of city schools.

Joanna Freeman. Died in 1897.

John Jacob Fryhofer, 810 Byers avenue, Joplin, Mo. Stenographer and bookkeeper for mining company.

Elmer George Gibson, Stockdale, Kan. Farmer.

George Clifton Hall, Manhattan, Kan. Farmer.

Alonzo Charles Havens, Dwight, Kan. Farmer.

Gertrude Julia (Havens) Norton, College Park, Md. Housewife.

Lawrence Wilbur Hayes, 906 Monroe street, North Topeka, Kan. Commission merchant.

John Warren Holland, Manila, P. I. Assistant cashier, United States customhouse.

Henry George Johnson, Chicago, Ill.

Susan Effie (Johnson) Cooper, Success, Kan. Housewife.

Marian Elizabeth Jones, M. S., Manhattan, Kan. Superintendent of domestic art department, Kansas State Agricultural College.

Thomas Lormer Jones, 1016 Walnut street, Kansas City, Mo. Piano-tuner.

Edward Clarence Joss, D. V. S., 118 S Twenty-sixth street, Seattle, Wash. Bureau of animal industry, United States Department of Agriculture.

Royal S. Kellogg, M. S., Fay, Kan. Agent bureau of forestry, United States Department of Agriculture.

Mark Kirkpatrick, Haileyville, I. T. United States land surveyor.

Edith Lynette (Lantz) Simmons, Victor, Colo. Housewife.

Sue (Long) Strauss, 220 Woodlawn avenue, Topeka, Kan. Housewife.

Charles W. Lyman, Salina, Kan. Commercial traveler, and graduate student Kansas State Agricultural College.

Charles Dwin McCauley, Wilburn, Kan. Draftsman.

Charles Sumner Marty, Sun, Kan. Ranchman.

Elda Lenore (Keen) Moore, Manhattan, Kan. Housewife.

Arthur Houston Morgan, Phillipsburg, Kan. Farmer.

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Clara Verena Newell, Stella, Neb. Teacher.
Ellen Elizabeth (Norton) Adams, Cheyenne Wells, Colo. Housewife.
John Bitting Smith Norton, M. S., College Park, Md. State pathologist and professor of botany, Maryland Agricultural College.
Hattie A. (Paddleford) McFadden, Walsburg, Kan. Housewife.
Mary Kerilla (Painter) Rogers, Stockholm, Okla. Housewife.
Elva Luthera (Palmer) Thackrey, 2746 Belleview avenue, Kansas City, Mo. Housewife.
Inez Luella (Palmer) Barrows, Clifton, Kan. Housewife.
Fannie (Parkinson) Moyer, Melvern, Kan. Housewife.
Archie Carpenter Peck, Francis, I. T. Manager of mill and cotton-gin.
Arthur Lewis Peter, M. D., 403-4 Mack block, Denver, Colo. Physician.
Charles Edwin Pincomb, Merriam, Kan. Stockman.
Mary Josephine (Pincomb) Moats, Tampico, Mexico. Housewife.
John Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Edgar Arthur Powell, R. F. D. No. 1, Osage City, Kan. Farmer and stock-raiser.
Lisle Willits Pursel, 904 Michigan avenue, Kansas City, Mo. Traveling salesman for Swift & Company.
Howard Newton Rhodes, Manhattan, Kan. Traveling salesman for Jas. Kirk, Chicago.
Ambrose Elliott Ridenour, Manhattan, Kan. Foreman of foundry, Kansas State Agricultural College.
Mary Etta (Ridenour) Plowman, Jewell, Kan. Housewife.
Isaac Archie Robertson, Manhattan, Kan. Clerk.
Grace Anna Secrest. Died in 1902.
Carl Snyder, Oskaloosa, Kan. Farmer.
Max Gilbert Spalding, Eureka, Kan. Teacher and farmer.
Orville Ashford Stingley, 913 East Thirty-sixth street, Kansas City, Mo. Inspector in bureau of animal industry, United States Department of Agriculture.
Sadie (Stingley) Haggman, 718 West Eleventh street, Los Angeles, Cal. Housewife.
Gertrude Ella Stump, Manhattan, Kan. Assistant in domestic art department and graduate student, Kansas State Agricultural College.
Miriam Esther (Swingle) Joss, 118 South Twenty-sixth street, Seattle, Wash. Housewife.
William Elwood Thackrey, Geneva, Neb. Manual-training teacher, Indian service.
James Dunbar Trumbull, Riley, Kan. Merchant.
Frank Edwin Uhl, Gardner, Kan. Farmer, and graduate student Kansas State Agricultural College.
Edwin H. Webster, Manhattan, Kan. Inspector and dairy expert, United States Department of Agriculture.

1897.*

Cora Atwell, R. F. D. No. 3, North Topeka, Kan. At home.
Roger Williams Bishoff, Eudora, Kan. Farmer.
Mary Frances Carnell, Bunker Hill, Kan.
William Burns Chase, Hoyt, Kan. Hardware merchant.
Frank E. Cheadle, Erwin, Okla. Painter.
Robert Waitman Clothier, M. S., Cape Girardeau, Mo. Professor of chemistry and agriculture, Third District Normal School.

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*B. S. has been granted all graduates since 1877.

Maggie A. (Correll) Uhl, Gardner, Kan. Housewife.
Mabel Crump, 527 Delaware street, Kansas City, Mo. Stenographer for R. G. Dun.
Fred Volley Dial, Cleburne, Kan. Clerk.
Viola Grace Dille, Ottawa, Kan. Bookkeeper.
Samuel Dolby. Died in 1903.
George Doll, Larned, Kan. Teacher and farmer.
Anna Phillipina (Engel) Blackman, Manhattan, Kan. Housewife.
Emma Finley, Lordsburg, Cal. Teacher in La Verne schools.
Martha Fox, Manhattan, Kan. Nurse.
Philip Fox, M. S., Williams Bay, Wis. Appointment from Carnegie Institution to do solar work at Yerkes Observatory.
Ned Merrill Green, Fort Niobrara, Neb. Second lieutenant, Twenty-fifth infantry, United States army.
Mary Eliza Haulenbeck. Died in 1901.
Lewellyn Gaines Hepworth, Burlingame, Kan. Seed merchant.
Ina Emma Holroyd, Manhattan, Kan. Assistant in preparatory department, Kansas State Agricultural College.
Myrtle Hattie (Hood) Johnson, Success, Kan. Housewife.
Charles Henry Hoop, Manhattan, Kan. Clerk.
Winifred Anna (Houghton) Buck, Marceline, Mo. Housewife.
Bret Redmon Hull, Alta Vista, Kan. Lumber dealer.
Clay Berkey Ingman, Barnes, Kan. Farmer.
Gertrude May (Lyman) Hall, Hyattsville, Md. Housewife.
Frederick Hugo Meyer, Basehor, Kan. Creamery company.
Valentine Maelzer, Challis, Idaho. Farmer and teacher.
Sherman Bodwell Newell, Greenwood, S. Dak. Teacher in Yankton Indian Training School.
Oliver Ezra Noble, Hobart, Okla. Government surveyor.
Jesse Baker Norton, M. S., Washington, D. C. Assistant in bureau of plant industry, United States Department of Agriculture.
Mary Augusta Norton, Manhattan, Kan. At home.
Bertha Olivia Olson, Manhattan, Kan. At home.
Hilda Sophia (Olson) Axelton, Randolph, Kan. Housewife.
Russell John Peck, McFarland, Kan. Teacher.
William Oscar Peterson, box 203, Randolph, Kan. Farmer.
Eva Louise Philbrook, Oxnard, Cal. At home.
Rufus M. Philbrook. ———.
William Joseph Rhoades, Olathe, Kan. Cashier in bank.
Carl Rice, Cauayan, Isabella prov., North Luzon, P. I. Government employee.
Thomas Meade Robertson, Coffeyville, Kan. Dentist.
Homer Joseph Robison, Taal, Batanzas prov., P. I. Hospital steward, United States army.
Edward Shellenbaum, Randolph, Kan. Clerk in post-office.
Alice Myrtle Shofe, Manhattan, Kan. At home.
Charles Wesley Shull, Leoti, Kan. Farmer.
Alfred Caleb Smith, 7503 Sunnyside avenue, Seattle, Wash. Electrician.
Phœbe Jane Smith, 514 West Eighth street, Pueblo, Colo. Teacher city schools.
Wilhelmina Henrietta Spohr, Manhattan, Kan. Teacher city schools.
Charles Harrison Stokely, Burlingame, Ark.
John E. Trembly, Comiskey, Kan. Farmer.

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Harriet Agnes Vandivert, Manhattan, Kan. Instructor, Kansas State Agricultural College.
Olive Voiles, Cedar Rapids, Iowa. Head nurse in St. Luke's Hospital.
John Minton Westgate, M. S., Washington, D. C. Scientific assistant in bureau of agrostology, United States Department of Agriculture.
Mark Wheeler, Manila, P. I. First lieutenant, Fourth United States infantry.
Clare Annie (Wilson) Dutton, Council Grove, Kan. Housewife.

1898.*

Emory Sherwood Adams, Manila, P. I. Lieutenant in Fourteenth United States infantry.
Joshua William Adams, Cheyenne Wells, Colo. Rain Belt Experiment Station.
Samuel John Adams, Cheyenne Wells, Colo. Farmer.
Thomas Walter Allison, Florence, Kan. Farmer and fruit-grower.
William Anderson, Manhattan, Kan. Assistant in mathematics and graduate student, Kansas State Agricultural College.
Jessie Geneva (Bayless) Staver. Lenexa, Kan. Housewife.
Hope Brady, Manhattan, Kan. Teacher city schools, Liberal, Kan.
Robert Henry Brown, Manhattan, Kan. Assistant in music, Kansas State Agricultural College.
Earl Carver Butterfield, 1737 F street, N.-W., Washington, D. C. Scientific aid in bureau of plant industry, United States Department of Agriculture.
John Alfred Conover, Ames, Iowa. Special student in Iowa State College.
Minnie Laura Copeland, 3216 Wabash avenue, Chicago, Ill. Graduate nurse.
Lucy Maria (Cottrell) Pottorf, Riley, Kan. Housewife.
Anna Magdalena Dahl, R. F. D. No. 1, Montrose, Kan. Teacher in Hardy, Neb.
Inga Josephine Dahl, R. F. D. No. 1, Montrose, Kan. At home.
Cassie Belle Dille, Ottawa, Kan. Stenographer.
Emma Phillipine Doll, Freeport, Ill. Student in Globe Hospital and Training School.
Cora Elizabeth (Ewalt) Brown, Manhattan, Kan. Housewife.
Guy Francis Farley, Melvern, Kan. Grain merchant.
Mary (Finley) Ridenour, Manhattan, Kan. Housewife.
Arthur Lorenzo Frowe, Wamego, Kan. Student at Drake University, Des Moines, Iowa.
William Logan Hall, M. S., Hyattsville, Md. Assistant forester in bureau of forestry, United States Department of Agriculture.
Anna Viola (Hanson) Higinbotham, Manhattan, Kan. Housewife.
Walter Eugene Hardy, Sedgwick, Ark. Secretary of Culver Lumber and Manufacturing Company.
James Madison Harvey, Junction City, Kan. Farmer.
Emmett Vivian Hoffman, Enterprise, Kan. Business manager of flouring-mill.
Guy Dudley Hulett, D. O., 409 South Sixth street, Kirksville, Mo. Professor of physiology and principles of osteopathy, American School of Osteopathy.
Bertha Emma Ingman, Barnes, Kan. At home.
Ary Cordelia Johnson, 512 East First street, Trinidad, Colo.
Charles Percy King.
Bessie May (Locke) Noble, Hobart, Okla. Housewife.
Olive Long. Died in 1902.
William Andrew McCullough, M. D., Linwood, Kan. Physician.
Inez Isadore (Manchester) Allison, Florence, Kan. Housewife.

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Florence Adelia Martin. Died in 1901.
Henry Alba Martin, Admire, Kan. Creamery.
Alice Maude Melton, Manhattan, Kan. Clerk in director's office, Experiment Station.
George Gerkein Menke, Seattle, Wash. Electrician for Sunset Telephone Company.
Mary Frances Minis, Manhattan, Kan. Clerk in real-estate office.
May Moore, Manhattan, Kan. Bookkeeper.
Harriet Grace Nichols, Liberal, Kan. At home.
Schuyler Nichols, M. D., Liberal, Kan. Physician.
Lucy Junie Parks, Manhattan, Kan. Teacher.
Ernest Byron Patten, Carthage, S. Dak. Grain dealer.
C. Jeanette Perry, Manhattan, Kan. Clerk in secretary's office, Kansas State Agricultural College.
Emilie Matilda Pfuetze, Manhattan, Kan. Cashier in store.
John Martin Pierce, Alexander Valley, Cal. Fruit-grower.
Raymond Haines Pond, M. S., 410 East Liberty street, Ann Arbor, Mich. Student of botany, University of Michigan.
William Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Willis Thomas Pope, Honolulu, H. I. Professor of nature study and agriculture in the Territorial Normal School of Hawaii.
Nora May (Reed) Pierce, Alexander Valley, Cal. Housewife.
Gertrude Elizabeth Rhodes, Manhattan, Kan. Teacher.
Henry William Rogler, Bazaar, Kan. Farmer.
Ferdinand John Rumold, Dillon, Kan. Farmer.
Martin Wilbur Sanderson, Marysville, Kan. County surveyor.
Olive Maria Sheldon, Manhattan, Kan. At home.
Edwin Lee Smith, Manhattan, Kan. Teacher and farmer.
Oliver Russell Smith, Socorro, N. M. Professor of civil engineering, New Mexico School of Mines.
Bertha (Spohr) Smith, 621 Louisiana street, Lawrence, Kan. Housewife.
Andrew B. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.
Cora Thackrey, Valentine, Neb. Teacher.
Harriet Emerson (Thackrey) Reece, Valentine, Neb. Housewife.
Henry Marsden Thomas, 1416 West Eleventh street, Kansas City, Mo. Traveling salesman for J. I. Case Threshing Machine Company.
Elsie Lucile Waters, 2469 North Springfield avenue, Chicago, Ill. Stenographer.
Fred Dorsey Waters, Dillon, Colo.
Abner Davis Whipple, 531 West Sixty-first place, Chicago, Ill. Clerk in auditor's office of Chicago & Eastern Illinois railroad.
Adelaide Frances (Wilder) Sawdon, 405 Thirty-third street, Chicago, Ill. Housewife.
Josephine Hannah (Wilder) McCullough, Linwood, Kan. Housewife.
Frank Yeoman, 514 Hall building, Kansas City, Mo. Lawyer.
Frederick Zimmerman, Kirksville, Mo. Manager of dairy herd.

1899.*

Bonnie Frances Adams, Cheyenne Wells, Colo. Teacher.
Morrison Carpenter Adams, Marvin, Kan. Teacher.
Melvia Fairetta Avery, Wakefield, Kan. Teacher.
Albert Edwin Blair, box 301, Lyndon, Kan. Continental Creamery Company.

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James Courtney Bolton, Paxico, Kan. Farmer.
Joseph Abbott Butterfield, El Reno, Okla. Carpenter.
Willit Ramson Correll, Overbrook, Kan. Farmer.
Ernest Lerned Cottrell, Wabaunsee, Kan. Farmer.
Alfred Burton Dille, jr., Edgerton, Kan. Farmer.
Francis Joseph Habiger, Bushton, Kan. Wheat-grower and stock-raiser.
John George Haney, Hays, Kan. Superintendent Fort Hays Branch Experiment Station.
John Andrew Harvey, Junction City, Kan. Farmer.
Grace Edna Hill, Manhattan, Kan. Teacher in city schools.
Hiram Adsit Holzer, Pittsburg, Kan. Draftsman for Santa Fe railroad.
Charles Clifford Jackson, Westmoreland, Kan. Stock-raiser.
Fred Emanuel Johnson, Kansas City, Mo. Laboratory instructor in organic chemistry at the Kansas City Veterinary College.
Harry Wallace Johnston, Herington, Kan. Telegraph operator in dispatcher's office of the Chicago, Rock Island & Pacific railway.
Lot Parker Keeler, 287 Second street, Portland, Ore. Carpenter.
John Martin Kessler, Eldora, Iowa. Gardener and florist, and graduate student Kansas State Agricultural College.
Albert Thomas Kinsley, M. S., 112 E. Lexington street, Independence, Mo. Bacteriologist at the Kansas City Veterinary College.
Frank Elmer LaShelle, Wray, Colo. Printer.
Christian Dagobert Lechner. ———.
Ross Long, Manhattan, Kan. Lawyer.
Louisa Mary (Maelzer) Haise, Russell, Kan. Housewife.
Kate Anna Manly, Manhattan, Kan. Teacher.
Claud Masters, lock box 676, Ardmore, I. T. Clerk of Chickasaw Town-site Commission.
Robert Bertice Mitchell, Fort Monroe, Va. Second lieutenant, artillery corps, United States army.
Jennie June (Needham) Carter, Lane, Kan. Housewife.
Roscoe Townley Nichols, M. D., Liberal, Kan. Physician.
Fanny Gertrude Noyes, Wabaunsee, Kan. At home.
Harry Delphos Orr, 2548 Indiana avenue, Chicago, Ill. Student assistant in chemistry in medical school of the Northwestern University, and graduate student Kansas State Agricultural College.
George Washington Owens, Tuskegee, Ala. Professor of agriculture and dairying.
Carrie Vashti (Painter) Des Marias, Lakeland, Kan. Housewife.
Ella Emerson Peck, Lexington, Okla. Teacher.
Anna C. Pfuetze, Olathe, Kan. Teacher of household economy in School for the Deaf.
Andrew Pottorf, Riley, Kan. Farmer.
Mary Bly (Pritner) Lockwood, Meadville, Pa. Housewife.
Otto Independence Purdy, El Reno, Okla. Associate editor *Daily American.*
Delmer William Randall, Manhattan, Kan. Contractor.
William Harry Roberts, Perry, Okla. Principal of schools.
Frank Sessions Sheldon, Grand Rapids, Mich. Traveling salesman.
Louisa Mary Spohr, Topeka, Kan. Director of nurses in Christ hospital.
Annie Louisa (Streeter) Haney, Hays, Kan. Housewife.
Nellie Towers, Manhattan, Kan. At home.

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Otho Sprague True, Vera, Kan. Farmer.
James Otis Tulloss, Sedan, Kan. Merchant, and Regent Kansas State Agricultural College.
William Guy Tulloss, Rantoul, Kan. Farmer.
George Franklin Wagner, Enterprise, Kan. Farmer.
Mary Lana (Waugh) Smith, 7503 Sunnyside avenue, Seattle, Wash. Housewife and journalist.
Charles Bernard White, Hudson, Colo. Ranchman.
Nannie Elizabeth Williams, 4226 Botanical avenue, St. Louis, Mo. Stenographer.
Alexander George Wilson. Died in 1902.
Frederick Otto Woestemeyer, Lebanon, Tenn. Student Cumberland University.

1900.*

Elizabeth Jane Agnew, Manhattan, Kan. Assistant in domestic science Kansas State Agricultural College.
Elizabeth Edna (Asbury) Derr, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Effie Elizabeth (Bailey) Foltz, Zeandale, Kan. Housewife.
Alvah I. Bain, Marysville, Kan. Farmer.
Harry H. Bainer, Trenton, Mo. Dairy herdsman at Ruskin College.
Charlotte Almira Berkey, Ore, Mo. Teacher.
John Harold Blachly, Manhattan, Kan. Mechanic.
Minerva Blachly, Manhattan, Kan. Bookkeeper in secretary's office, Kansas State Agricultural College.
Zina Leigh Bliss, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.
Fred Winchester Bobbitt, Perry, Okla. Draftsman.
Lillie Grace Bolton, Paxico, Kan. At home.
Prudence Dell Broquet, Norton, Kan. At home.
Nellie (Burtner) Sargent. Died in 1901.
Clarence Asa Chandler, R. F. D. No. 2, St. Louis, Mo. Shaw's Botanical Gardens.
Frederick Waldemar Christensen, Randolph, Kan. Farmer, and graduate student Kansas State Agricultural College.
Ernest Mansel Cook, Oakley, Kan. Principal of schools at Summerville, Kan.
Charles McClain Correll, Manhattan, Kan. Teacher in city schools.
Jennie Maude Currie, 906 Madison street, Topeka, Kan. At home.
Harry Leroy Dern, Kingman, Kan. Teacher.
Homer Derr, Manhattan, Kan. Instructor and graduate student, Kansas State Agricultural College.
Mary Alberta (Dille) Hulett, 409 S. Sixth street, Kirksville, Mo. Housewife.
Robert Edward Eastman, Hampton, Va. Professor of agriculture at Hampton Institute.
Jennie Edelblute, Manhattan, Kan. Clerk.
Eugene Emrick, ———.
Josephine Finley, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Harry Verne Forest, Thayer, Kan. Draftsman.
George Ogden Greene, M. S., Manhattan, Kan. Assistant in horticulture, Kansas State Agricultural College.
Herman Haffner, Junction City, Kan. Florist.

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Gustaf William Hanson, lock box 953, Wichita, Kan. Mechanical draftsman and designing engineer.
James William Harner, Keats, Kan. Merchant.
Daisy Gladys Hoffman, 310 First street, Jackson, Mich. Directress of kindergarten.
Walter Fisk Lawry, Manhattan, Kan. Civil engineer.
Amanda Culp McCarty, Mountain Grove, Mo. Instructor in music, Mountain Grove Academy.
N. Ollie McCurry, Plymouth, Kan. Telegraph operator.
George G. McDowell, Elkton, Colo. Miner.
Roland McKee, Blue Rapids, Kan. Farmer.
Nettie McLaren, Altoona, Kan. At home.
Charles Dudley Montgomery. Died in 1902.
Fred Byers Morlan, R. F. D. No. 1, Courtland, Kan. Farmer.
Andrew Edward Oman, Winkler, Kan. Teacher, and graduate student Kansas State Agricultural College.
Kate Paddock, Manhattan, Kan. At home.
Joseph Lloyd Pancake, Tully, Kan. Stock-raiser.
Albert William Parrack. Died in 1901.
Edith Perkins, box 138, South Pasadena, Cal. At home.
Elenore Perkins, box 138, South Pasadena, Cal. At home.
Paul du Chaillu Piersol, ———.
Luther Eugene Potter, Grand Junction, Colo. Superintendent of farm at Indian school.
Clara Spilman, Beloit, Kan. Instructor in domestic science at the State Industrial School for Girls.
Mabel Stewart, Neosho, Mo. Teacher.
Stella Stewart, Northampton, Mass. Student at the Clarke Training School.
Fayette Charles Sweet, Lockwood, Beaver county, Oklahoma. Stockman.
Cora Edith Swingle, South Canaan, Pa. Teacher.
Dean Brett Swingle, 325 M street, N. W., Washington, D. C. Assistant in pathology, bureau of plant industry, United States Department of Agriculture.
Barton Thompson, Garrison, Kan. Farmer and teacher.
Laura Helen Trumbull, Manhattan, Kan. Teacher.
Jessie May Wagner, Enterprise, Kan. At home.
Luther Watts Waldraven, Randolph, Kan. Farmer.
Kate Elizabeth Zimmerman, Santa Fé, N. M. Instructor in domestic art, Allison school.

1901.*

Delmer Akin, Manhattan, Kan. Law student at Kansas State University, Lawrence, Kan.
Cyrus Norton Allison, corner Eleventh and Locust streets, Kansas City, Mo. Dental student.
Loua Adella Blachly, Manhattan, Kan. Teacher.
Harry S. Bourne, Delphos, Kan. Farmer.
Charles J. Burson, Niotaze, Kan. County surveyor.
Howard Frank Butterfield, 510 N. Walnut street, Pittsburg, Kan. Instructor in manual training in city schools.
Edwin Charles Cook, Oakley, Kan. Farmer.

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Ina Foote Cowles, Manhattan, Kan. Instructor in domestic art and graduate student, Kansas State Agricultural college.
Trena Dahl, Montrose, Kan., R. F. D. No. 1. At home.
Fannie Rachel Ellen Dale, Manhattan, Kan. Instructor in business college.
Herman August Dieball, Albuquerque, N. M. Insurance agent.
Edgar Willis Doane, Palo Alto, Cal. Student Leland Stanford Jr. University.
Otto H. Elling, Hays, Kan. Foreman at Fort Hays Branch Experiment Station.
Valentine Meacham Emmert, Blue Rapids, Kan. Farmer.
Rainey Faris, 130 E. Sixth street, Alton, Ill. Draftsman for Western Cartridge Company.
Harry Haines Fay, Wilsey, Kan. Farmer.
Fred Fockele, Waverley, Kan. Cashier in bank.
Louisa Gerteis, Derby, Kan. Teacher.
Maud Hart, Good Hill, S. Dak. Instructor in domestic science in Indian school.
Fred Willis Haselwood, Palo Alto, Cal. Student Leland Stanford Jr. University.
Minnie Howell, 1725 Topeka avenue, Topeka, Kan. Instructor in domestic science, industrial institute.
Edith Huntress, Manhattan, Kan. At home.
Louis Berten Jolley, 384 S. Paulina street, Chicago, Ill. Student Chicago Homeopathic Medical College.
Helen Knostman, Manhattan, Kan. Clerk in post-office, Kansas State Agricultural college.
Daniel Ladd, Palo Alto, Cal. Student Leland Stanford Jr. University.
Erma Elizabeth Lock, Mountain Grove, Mo. At home.
Harvey McCaslin, Palo Alto, Cal. Student Leland Stanford Jr. University.
Madge Ruth McKeen, Manhattan, Kan. At home.
John A. McKenzie, Solomon, Kan. Farmer.
George Matinson, Palo Alto, Cal. Student Leland Stanford Jr. University.
Walter E. Mathewson, Manhattan, Kan. Assistant in chemistry, Kansas State Agricultural College.
Emma Maude (Miller) Cook, Oakley, Kan. Housewife.
Margaret Jane Minis, Manhattan, Kan. Assistant librarian, Kansas State Agricultural College.
Clarence William Morgan, Phillipsburg, Kan. Teacher and farmer.
Eugene Lawrence Morgan, Phillipsburg, Kan. Student at Kansas Medical College, Topeka.
Ruth Atwill Mudge, Manhattan, Kan. Instructor and stenographer, Kansas State Agricultural College.
Jessie May Mustard, Manchester, Kan. Teacher at Hope, Kan.
Martha Nitcher, 7503 Sunnyside avenue, Seattle, Wash. Stenographer.
John H. Oesterhaus, Holton, Kan. Clerk.
Carrie Bell Oneel, Effingham, Kan. At home.
Helena Maude Pincomb, Pittsburg, Kan. Instructor in domestic art in Pittsburg high school, and graduate student Kansas State Agricultural College.
Bryant Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Leroy Rigg, Kirwin, Kan. Farmer.
William Stephen Sargent, Lost Cabin, Wyo. Foreman of sheep ranch.
Maude (Sauble) Rogler, Bazaar, Kan. Housewife.
Charles A. Scott, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.
Anna Louisa (Smith) Kinsley, 112 East Lexington street, Independence, Mo. Housewife.

Adelaide Strite, R. F. D. No. 1, Manhattan, Kan. Teacher.
Anna Odette Summers, Waterville, Kan.
Lucy Sweet, Santa Cruz, Cal. At home.
Perrin K. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.
Estella Mae Tharp, Arkansas City, Kan. Teacher.
Helen Castle True, Vera, Kan. At home.
Harry Castle Turner, Rock Creek, Kan. Teacher.
Florence Helen Vail, Manhattan, Kan. Instructor and graduate student, Kansas State Agricultural College.
Mary Caroline Wagner, Enterprise, Kan. At home.
Eleanor Mary White, R. F. D. No. 4, Newton, Kan. Teacher.
Katharena Winter, Manhattan, Kan. Clerk.
Lucie Joan Wyatt, Westmoreland, Kan. Teacher.
Henry Theador York. Died in 1902.

1902.*

Mamie Alexander, Manhattan, Kan. Assistant in office of farm department and graduate student, Kansas State Agricultural College.
Edgar McCall Amos, Manhattan, Kan. Newspaper reporter.
Henry Albert Avery, Wakefield, Kan. Hardware and implement merchant.
Etta Marie Barnard, Manhattan, Kan. Teacher in Cleburne school.
Mary Olive Barr, Manhattan, Kan. Teacher.
George Ford Bean, Topeka, Kan. Machinist in Santa Fe shops.
Charles Dallas Blachly, Leonardville, Kan. Teacher.
Bessie Sarah Bourne, Delphos, Kan. Teacher at Hollis.
Martha Amelia Briggs, R. F. D. No. 2, Manhattan, Kan. At home.
Emma M. Cain, Clay Center, Kan. Teacher at Randolph.
Floyd Adelbert Champlin, Phillipsburg, Kan. Stockman.
Elijah Ellis Chase, Merriam, Kan. Farmer.
Charles Howard Clark, Colorado Springs, Colo. Dairyman at Durham dairy.
Maude Mildred Coe, Manhattan, Kan. Assistant in domestic art and graduate student, Kansas State Agricultural College.
Murray Stanley Cole, 870 Third street, San Bernardino, Cal. Draftsman in Santa Fe shops.
Robert Curtise Cole, Trenton, Mo. Foreman of Vrooman farm.
Lottie Irene Crawford, 52 Livingston street, Brooklyn, N. Y. Student at Pratt Institute.
Sarah Emily Davies, Bala, Kan.
Della Drollinger, Garrison, Kan. Teacher.
Charles Eastman, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Leslie Arthur Fitz, Washington, D. C. Assistant in bureau of forestry, United States Department of Agriculture.
Glick Fockele, Gridley, Kan. Editor.
Clark A. Gingery, Caldwell, Kan. Foreman of nursery.
William Lee Harvey, Arkalon, Kan. County attorney.
William Rutherford Hildreth, Altamont, Kan. Farmer.
Christine Delphine Hofer, Manhattan, Kan. Graduate student Kansas State Agricultural College.
Henrietta Mattie Hofer, Manhattan, Kan. Graduate student Kansas State Agricultural College.

*B. S. has been granted all graduates since 1877.

Edouard Wilfred House, 713 Monroe street, Topeka, Kan. Mechanic in Santa Fe shops, and graduate student Kansas State Agricultural College.

Letta Birdilla Keen, Clay Center, Kan. At home.

Edgar Willis Kimball, Manhattan, Kan. Teacher at Keats.

Arthur Henry Leidigh, R. F. D. No. 3, Hutchinson, Kan. Farmer.

George Logan, Manhattan, Kan. Instructor and graduate student, Kansas State Agricultural College.

Otto Meade McAninch, R. F. D. Manhattan, Kan. Farmer.

Amelia Augusta Maelzer, Challis, Idaho. Teacher.

Myrtle Mather, Bloomington, Ill. Instructor in dietetics in Brokaw hospital.

Roger Bonner Mullen, Lake Bay, Wash. Fruit-grower.

Grover Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.

Abbie Elida Putnam, Manhattan, Kan. Teacher.

Henry Paul Richards, Manhattan, Kan. Special apprentice with the Santa Fe Railway Company, at Topeka, Kan.

Eva Talitha Rigg, Manhattan, Kan. General secretary of Young Women's Christian Association and graduate student, Kansas State Agricultural College.

John Francis Ross, Chillocco, Okla. Professor of agriculture in Indian school.

Pontus Henry Ross, Kenai, Alaska. Assistant in United States experiment station.

Fred Lewis Schneider, Kansas City, Mo. Student at Kansas City Veterinary college.

Edmund Ray Secrest, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.

Glen Reid Shepherd, 623 Oakland avenue, Kansas City, Kan.

Charles Franklin Smith, Keighley, Kan. Teacher.

Walter Hayward Spencer, Yates Center, Kan. Farmer.

John Thomas Stafford, Maher, Colo.

Myrtie Lucy Toothaker, Wheaton, Kan. Teacher.

Fred Walters, 515 Nevada avenue, Trinidad, Colo. Building superintendent.

Lilly Maud Zimmerman, Moray, Kan. Student pianoforte.

SUMMARY.

The number of graduates up to 1903 is 866, of whom 328 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of bachelor of arts. Since 1877, all have received the degree of bachelor of science, after a four-year course in the sciences, with good English training.

Of the 538 men, 26 are deceased, and the remainder are reported in the following occupations:

Farmers and stock-raisers	106
Farm foremen	5
Fruit-growers, nurserymen, and gardeners	15
Professors and instructors in colleges	37
Superintendents of agricultural experiment stations	4
Assistants in agricultural experiment stations and agricultural colleges	9
In United States Department of Agriculture	20
In United States government civil service	19
In military service	8
Regents Kansas State Agricultural College	4
Superintendents and teachers in public schools	39
Teachers in Indian schools	8
Graduate students Kansas State Agricultural College	11
Students in other institutions	17
Physicians and students of medicine, druggists, and dentists	28
Lawyers	27
District judge	1
Ministers and secretaries of Y. M. C. A	11
Journalists	22
Architects and builders	7
Draftsmen	7
Civil, electrical, mining and mechanical engineers	11
Mechanics	12
Manufacturers	5
Miners	6
Telephone and telegraph operators and managers	4
Officials and official clerks	4
Clerks and bookkeepers	16
Merchants	34
County and state officials	13
Bankers and cashiers	9
Commercial travelers	9
Creamery men	5
Agents	7
Piano-tuner	1
Abstracter	1
Photographer	1
Painters and paper-hangers	2
Secretary of Board of Agriculture	1
Solar observer	1
Unknown	17
Total	564
In two occupations	52
	512

Of the 328 women, 15 are deceased, and the remainder occupied as follows:

Housewives	137
Teachers in public schools	45
Teachers of domestic science and domestic art, and dietitians	18
Professors and instructors in colleges	13
Teachers of art and music	6
Physicians	2
Students in other institutions	6
Graduate students Kansas State Agricultural College	11
Instructors and assistants in agricultural colleges and experiment stations	9
Secretary of Kansas State Agricultural College	1
Librarians and assistant librarians	3
Nurses	7
Bookkeepers, stenographers, clerks	17
Milliners and dressmakers	2
Journalist	1
Telegraph operator	1
Secretary of Y. W. C. A	1
Kindergarten teacher	1
In United States Department of Agriculture	1
With opera company	1
At home	36
Unknown	5
Total	324
In two occupations	11
	313

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of the

Officers, Students and Graduates

of the

Kansas State Agricultural College,

Manhattan.

1903-'04.

Printed by
GEO. A. CLARK, State Printer,
May, 1904.

ANDERSON (MAIN) HALL.

Terms and Vacations.

Fall Term, 1904, Thirteen Weeks.

Wednesday, September 21.—Examination for admission, at nine A. M.
Thursday, September 22.—College year begins.
Tuesday, October 4.—Short course in domestic science begins.
Saturday, November 5.—Mid-term examination.
Thursday, November 24.—Thanksgiving-day vacation.
Thursday and Friday, December 22, 23.—Examination at close of term.

Winter Term, 1905, Twelve Weeks.

Monday, January 2.—Examination for admission, at nine A. M.
Tuesday, January 3.—Winter term begins.
Tuesday, January 3.—Short courses in agriculture and dairying begin.
Saturday, January 21.—Annual inter-society oratorical contest.
Saturday, February 11.—Mid-term examination.
Thursday and Friday, March 23, 24.—Examination at close of term.

Spring Term, 1905, Eleven Weeks.

Monday, March 27.—Examination for admission, at nine A. M.
Tuesday, March 28.—Spring term begins.
Saturday, May 6.—Mid-term examination.
Tuesday and Wednesday, June 13, 14.—Examination at close of year.
June 11 to 15.—Exercises of commencement week.
Thursday, June 15, at ten A. M.—Commencement.
June 16 to September 20.—Summer vacation.

Fall Term, 1905.

Wednesday, September 20.—Examination for admission, at nine A. M.
Thursday, September 21.—College year begins.

Students must be present the very first day of each term or render a reasonable excuse. Failure to take out an assignment will not be accepted as an excuse.

Board of Regents.

HON. J. S. McDOWELL (1905),[1] *President*,
Smith Center, Smith county.

HON. C. E. FRIEND, (1905), *Vice-president*,
Soldier, Jackson county.

HON. R. J. BROCK,[2] (1905), *Loan Commissioner*,
Manhattan, Riley county.

HON. E. T. FAIRCHILD (1907),
Ellsworth, Ellsworth county.

HON. J. W. BERRY (1907),
Jewell, Jewell county.

HON. J. O. TULLOSS (1907),
Sedan, Chautauqua county.

HON. G. S. MURPHEY[3] (1905),
Manhattan, Riley county.

PRES. E. R. NICHOLS (*ex officio*), *Secretary*,
Manhattan, Riley county.

MISS LORENA E. CLEMONS, *Assistant Secretary*,
Manhattan.

---

1. Term expires.
2. Till May 28, 1904.
3. Since May 28, 1904.

Board of Instruction.

The Faculty.

ERNEST R. NICHOLS, D. B. (Iowa State Normal School), A. M. (State University of Iowa),
President.

JOHN D. WALTERS, M. S. (Kansas State Agricultural College),
Professor of Industrial Art and Designing.

ALEXANDER B. BROWN (Boston Music School), A. M. (Olivet),
Professor of Music.

JULIUS T. WILLARD, M. S. (Kansas State Agricultural College),
Professor of Chemistry.

EDWIN A. POPENOE, A. M. (Washburn),
Professor of Entomology and Zoology, Curator of the Museum.

BENJAMIN L. REMICK, PH. M. (Cornell College),
Professor of Mathematics.

BENJAMIN F. EYER, B. S. (Armour Institute),
Professor of Physics and Electrical Engineering.

HERBERT F. ROBERTS, A. B. (University of Kansas), M. S. (Kansas State Agricultural College),
Professor of Botany.

WILLIAM ARCH McKEEVER, A. M. (University of Kansas),
Professor of Philosophy.

EDMUND S. McCORMICK, S. B. (Massachusetts Institute of Technology),
Professor of Mechanical Engineering, Superintendent of Shops.

NELSON S. MAYO, M. S. (Michigan Agricultural College), D. V. S. (Chicago Veterinary College),
Professor of Veterinary Science.

ALBERT DICKENS, M. S. (Kansas State Agricultural College),
Professor of Horticulture, Superintendent of Orchards and Gardens.

CLARK M. BRINK, A. M. (U. of R.), Ph. D. (University of City of New York),
Professor of English.

ALBERT M. TEN EYCK, B. Agr. (Wisconsin),
Professor of Agriculture, Superintendent of Farm.

Mrs. HENRIETTA W. CALVIN, B. S. (Kansas State Agricultural College),
Professor of Domestic Science.

RALPH R. PRICE, A. B. (Baker), A. M. (University of Kansas),
Professor of History and Economics.

JULIUS E. KAMMEYER, A. M. (Central Wesleyan College),
Professor of Public Speaking.

OSCAR ERF, B. S. Agr. (Ohio University),
Professor of Dairy and Animal Husbandry.

PEARL M. SHAFFER, Captain Twenty-fifth Infantry, U. S. A.,
Professor of Military Science.

JOSHUA D. RICKMAN (International Typographical Union),
Superintendent of Printing.

BENJ. S. McFARLAND, A. M. (Miami),
Principal Preparatory Department.

Miss MARIAN JONES, M. S. (Kansas State Agricultural College),
Superintendent of Domestic Art.

Miss MARGARET J. MINIS, B. S. (Kansas State Agricultural College),
Librarian.

Miss ESTELLA M. FEARON, B. S. (Kansas State Agricultural College),
Director of Physical Training.

Miss Lorena E. Clemons, B. S. (Kansas State Agricultural College),
Secretary.

Assistants.

JACOB LUND, M. S. (Kansas State Agricultural College),
Superintendent Heat and Power Department.

Miss JOSEPHINE C. HARPER, A. M. (Bethany),
Assistant Professor of Mathematics, absent on leave.

Miss ALICE RUPP (Indiana State Normal),
Assistant Professor of English.

CLARENCE L. BARNES, D. V. M. (Cornell University),
Assistant Professor of Veterinary Science.

JOHN O. HAMILTON, B. S. (Chicago),
Assistant Professor of Physics.

OSCAR H. HALSTEAD, B. S. (Kansas State Agricultural College),
Assistant Professor of Mathematics.

CHARLES E. PAUL, S. B. (Massachusetts Institute of Technology),
Assistant Professor of Mechanical Engineering.

Miss ADA RICE, B. S. (Kansas State Agricultural College),
Instructor in English.

WALTER E. MATHEWSON, B. S. (Kansas State Agricultural College),
Instructor in Chemistry.

FRANK M. McCLENAHAN, A. M. (Yale),
Instructor in Chemistry.

WILLIAM L. HOUSE,
Foreman of Carpenter Shop.

ROBERT H. BROWN, B. M. (Kansas Conservatory of Music), B. S. (K. S. A. C.),
Assistant in Music.

WILLIAM ANDERSON, B. S. (Kansas State Agricultural College),
Assistant in Mathematics.

Miss GERTRUDE BARNES,
Assistant Librarian.

WILLIAM BAXTER,
Foreman of Greenhouses.

LOUIS WABNITZ,
Foreman of Machine-shop.

ERNST C. GASSER,[1]
Foreman of Blacksmithing.

Miss INA E. HOLROYD, B. S. (Kansas State Agricultural College),
Assistant in Preparatory Department.

GEORGE O. GREENE,[2] M. S. (Kansas State Agricultural College),
Assistant in Horticulture.

Miss HETTY G. EVANS (Massachusetts Normal Art School),
Assistant in Drawing.

VERNON M. SHOESMITH, B. S. (Michigan Agricultural College),
Assistant in Agriculture.

Miss ELEANOR HARRIS, B. M. (Chicago College of Music),
Assistant in Music.

1. Till October 1, 1903.
2. Till January 1, 1904.

AMBROSE E. RIDENOUR, B. S. (Kansas State Agricultural College
Foreman in Foundry.

GEO. A. DEAN, B. S. (Kansas State Agricultural College),
Assistant in Entomology.

LESLIE F. PAULL, A. M. (Brown University),
Assistant in Botany.

MISS EMMA J. SHORT,
Assistant in Preparatory Department.

MISS INA F. COWLES, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

MISS MAUDE M. COE, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

ROSCOE H. SHAW, B. S. (New Hampshire College of Agr. and Mechanic Arts),
Assistant Chemist, Experiment Station.

THEO. H. SCHEFFER, A. M. (Cornell University),
Assistant in Zoology.

MISS KATE TINKEY,
Assistant Librarian.

EARL N. RODELL, B. S. (Kansas State Agricultural College),
Assistant in Printing.

MISS MILDRED SHAW, A. B. (Washburn),
Assistant in Mathematics.

MISS CAROLINE HOPPS, Ph. B. (University of Chicago),
Assistant in English.

MISS HELEN THOMPSON, B. S. (Kansas State Agricultural College),
Assistant in Preparatory Department.

MISS ELLA WEEKS, A. B. (University of Kansas),
Assistant in Drawing.

MISS FLORA ROSE (Framingham, Massachusetts, Normal),
Assistant in Domestic Science.

MISS CLARA PANCAKE, B. S. (Kansas State Agricultural College),
Assistant in Domestic Science.

R. F. BOOTH, B. S. (Northwestern),
Assistant in Physics.

ROLAND J. KINZER, B. S. Agr. (Iowa State College),
Assistant in Animal Husbandry.

GEO. C. WHEELER, B. S. (Kansas State Agricultural College),
Assistant in Feeding Experiments.

JOHN J. ABRAHAMS,[3]
Assistant in Heat and Power Department.

Miss FLORENCE H. VAIL, B. S. (Kansas State Agricultural College),
Assistant in Chemistry.

ROBERT E. EASTMAN,[4] M. S. (Cornell University),
Assistant in Horticulture.

SUMNER M. MANLEY, S. B. (Massachusetts Institute of Technology),
Assistant in Mechanical Engineering.

GEORGE A. MENZIES,[5]
Assistant in Dairying.

ELMER GARDNER,[6]
Assistant in Heat and Power Department.

WILLIAM F. MARX,[7]
Foreman of Blacksmithing.

Other Officers.

Miss C. JEANETTE PERRY, B. S. (Kansas State Agricultural College),
Executive Clerk.

Miss ALICE M. MELTON, B. S. (Kansas State Agricultural College),
Clerk in Director's Office.

Miss MINERVA BLACHLY, B. S. (Kansas State Agricultural College),
Bookkeeper.

Miss MAMIE ALEXANDER, B. S. (Kansas State Agricultural College),
Clerk in Farm Department.

Miss SARAH HOUGHAM, B. S. (Kansas State Agricultural College),
Clerk in Botanical Department.

CHARLES HUGHES,
Secretary to the President.

WILLIAM R. LEWIS,
Janitor.

3. Till December 20, 1903.
4. Since October 1, 1903.
5. Since January 1, 1904.
6. Since January 1, 1904.
7. Since March 28, 1904.

Experiment Station.

The Council.

President NICHOLS, Chairman.

Professor WILLARD, Chemist and Director.

Professor POPENOE, Entomologist.

Professor ROBERTS, Botanist.

Professor MAYO, Veterinarian.

Professor DICKENS, Horticulturist.

Professor TEN EYCK, Agriculturist.

Professor ERF, Dairy and Animal Husbandman.

Assistants.

GEO. O. GREENE,[1] Horticulture.
VERNON M. SHOESMITH, Agriculture.
GEO. A. DEAN, Entomology.
LESLIE F. PAULL, Botany.
CLARENCE L. BARNES, Veterinary Science.
ROSCOE H. SHAW, Chemistry.
ROLAND J. KINZER, Animal Husbandry.
ROBERT E. EASTMAN,[2] Horticulture.
Miss ALICE M. MELTON, Clerk in Director's Office.

Fort Hays Branch.

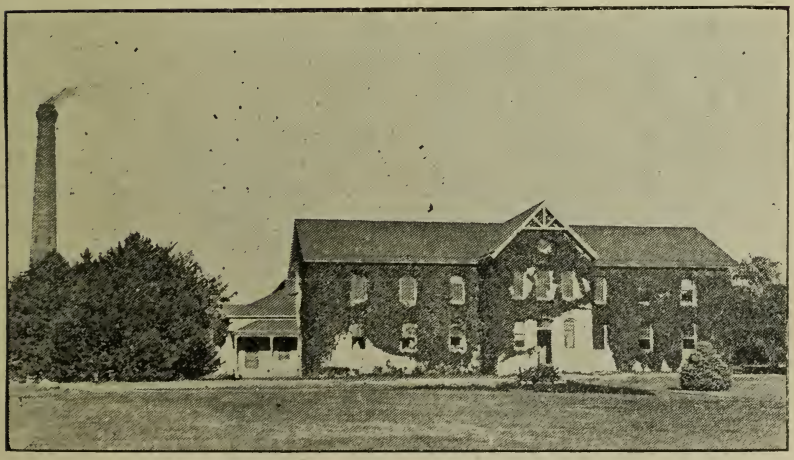
JOHN G. HANEY, Superintendent.

OTTO H. ELLING, Foreman.

1. Till October 1, 1903.
2. Since October 1, 1903.

Student Assistants.

GRACE ALLINGHAM, Preparatory.
RICHARD F. BOURNE, B. S., Veterinary.
FREDERICK W. CHRISTENSEN, B. S., Preparatory.
BERNARD C. COPELAND, Dairying.
CLAUDE C. CUNNINGHAM, B. S., Agriculture.
CHARLES S. DEARBORN, Mechanical Engineering.
LOIS DEMING, Stenographer.
CARL G. ELLING, Agriculture.
CORINNE FAILYER, B. S., Preparatory.
MAUDE FAILYER, B. S., Preparatory.
ELIZABETH FINLAYSON, Preparatory.
EDITH GOODWIN, B. S., Preparatory.
MARGARET HAGGERT, Preparatory.
HENRIETTA HOFER, B. S., Library.
EDITH HUNTRESS, B. S., Executive.
CHARLES F. KINMAN, Horticulture.
HERNON C. KYLE, B. S., Agriculture.
WILLIAM L. LANE, Surveying.
TOM L. PITTMAN, Surveying.
FANNY REYNOLDS, Preparatory.
CLYDE RICKMAN, Printing.
ROY A. SEATON, Surveying.
HARRIET VANDIVERT, B. S., English.
ORRIN R. WAKEFIELD, Veterinary.
CARL WHEELER, Surveying.
ORVILLE B. WHIPPLE, Horticulture.
MARY YENAWINE, Stenographer.
DAVID H. ZUCK, Agriculture.



MECHANICS' HALL.

The College Battalion.

The following is a roster of the commissioned and non-commissioned officers of the Kansas State Agricultural College corps of cadets for 1903–'04:

CAPT. PEARL M. SHAFFER, Twenty-fifth United States Infantry, Commandant of Cadets.

STAFF.

T. E. DIAL..... Cadet Major.
P. M. BIDDISON.... Cadet Captain and Quartermaster.
E. WHEELER..... Cadet First Lieutenant and Battalion Adjutant.
L. C. FOSTER..... Cadet Second Lieutenant and Battalion Quartermaster.
W. W. BUCKLEY.... Sergeant Major.
H. W. BAKER..... Quartermaster Sergeant.
O. O. MORRISON.... Color Sergeant.
E. B. TODD..... Signal Sergeant.

INFANTRY, BY COMPANIES.

RANK.	Company A.	Company B.	Company C.	Company D.	Company E.
Captain	T. L. Pittman	C. J. Axtell	G. E. Edgerton	R. A. Seaton	W. P. Terrel.
First Lieutenant	A. N. H. Beeman	V. L. Cory	M. A. Pierce	P. A. Cooley	W. B. Banning.
Second Lieutenant	C. H. Withington	J. L. Rogers	F. Van Dorp	C. B. Thummel	F. L. Balmer.
First Sergeant	H. R. Hein	C. I. Weaver	G. L. Shirley	E. J. Evans	W. H. Ijames.
Sergeants	N. H. Clark	E. Thurston	R. C. Bowman	E. A. Cole	F. O. Haasman.
	G. C. Kahl	V. E. Hess	E. M. Miers	R. N. Monroe	L. J. Munger.
	L. E. Hazen	G. A. Savage	B. S. Stewart	J. W. Freeman	F. Caldwell.
	E. L. Shattuck	W. R. Schenk	W. R. Ballard	E. Patee	J. Calvin.
					J. A. Lupfer.
Corporals	J. M. Ryan	C. Lambert	U. B. McGreevy	W. L. Davis	W. F. Reschke.
	H. B. Mulliken	H. E. Porter	H. E. Reed	F. C. Harris	S. R. Tillbury.
	C. Stewart	R. J. Johnson	M. M. Justin	C. L. Hawkinson	E. W. Thurston.
	E. Bull.	J. N. Bealy	S. V. Smith	J. Montgomery.	F. Sorgatz

The College Band.

The following is the roll of the College band for 1903–'04:

Prof. A. B. BROWN, DIRECTOR.

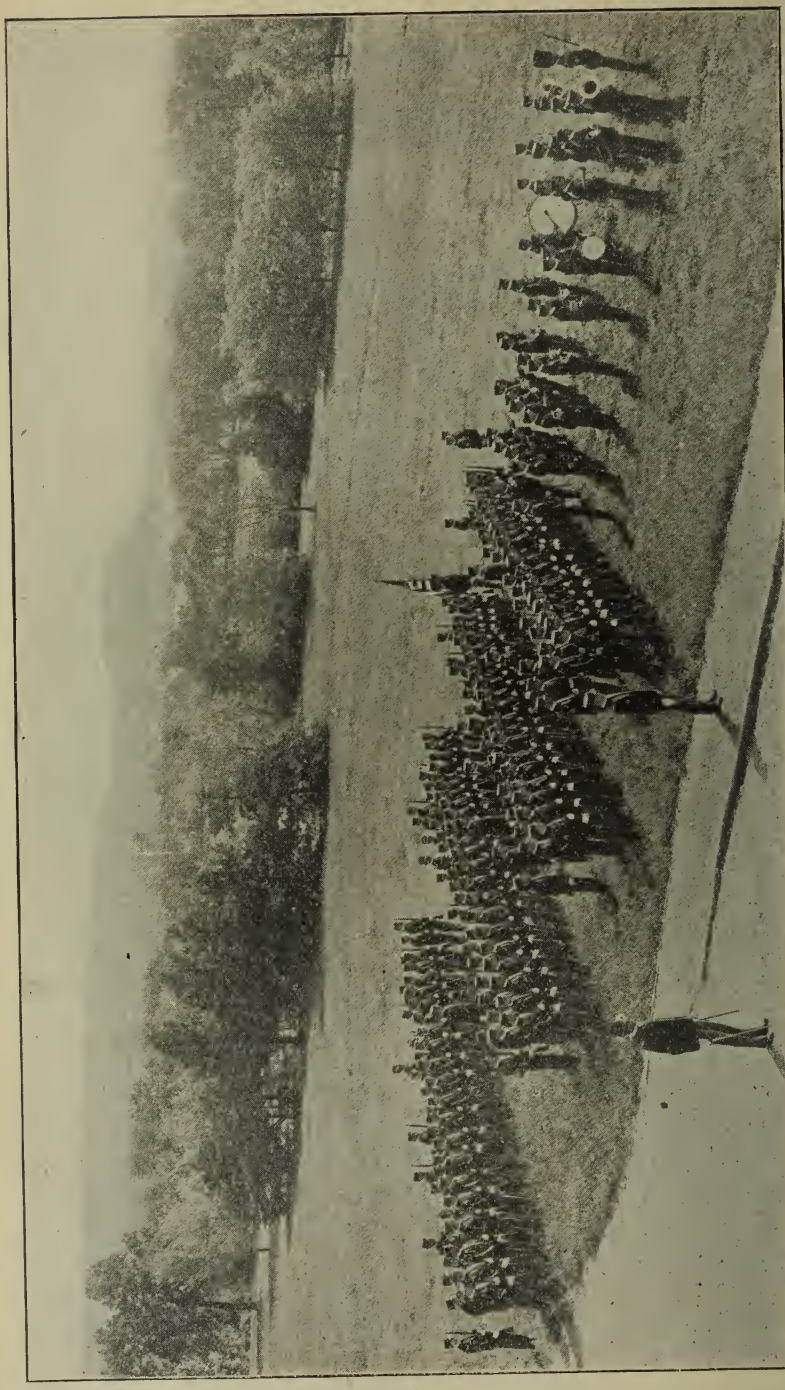
Asst. R. H. BROWN, Leader. F. W. WILSON, Drum Major.

Sergeants: A. C. WHITE, C. B. SWIFT, G. E. SOUDERS, H. B. HUBBARD, L. B. BENDER.

Corporals: V. MATTHEWS, W. B. NEAL, G. L. WRIGHT, W. D. DAVIS, GEO. WOLF, A. J. RHODES, L. FIELDING, H. D. MATTHEWS.

NAME.	Instrument.	NAME.	Instrument.
Frier, W. T.	Flute.	Seng, A. W.	Cornet.
Lawson, L. W.	Piccolo.	Souders, C. A.	"
Strong, H. W.	"	Stevens, O. A.	"
McCowan, L.	E♭ Clarinet.	Wright, G. L.	"
Sturgeon, W. J.	"	Bixby, H. E.	Horns.
Cudney, F.	B♭ Clarinet.	Cudney, E. W.	"
Fielding, L. W.	"	Ferrell, R. W.	"
Foster, J. J.	"	Neal, W. B.	"
Grabendike, F. W.	"	Perry, C. F.	"
Hanson, O. A.	"	Raglan, T. J.	"
Hubbard, H. B.	"	Ragsdale, C. D.	"
Logue, R. D.	"	Sage, L. G.	"
McCreary, A.	"	Samson, E. D.	"
Roberts, P. M.	"	Collier, R. A.	Trombone.
Strong, H. D.	"	Chamberlain, F. A.	"
Smith, F. J.	"	Kramer, W. L.	"
Ulrich, H. E.	"	Missildine, J. G.	"
Bender, L. B.	Saxaphone.	Neer, D. M.	"
White, A. C.	"	Rhodes, A. J.	"
Bevington, L. A.	Cornet.	Shank, Geo.	"
Brinkman, H. W.	"	Walters, D.	"
Biddison, W. V.	"	Wolcott, J. H.	"
Copping, M. J.	"	Goodrich, O. M.	Baritone.
Cowles, A. J.	"	Souders, G. E.	"
Davis, H. L.	"	Joy, C. G.	Tuba.
Durham, C. L.	"	Spuhler, H. A.	"
Elsas, M.	"	Swift, C. B.	"
Gardner, P. D.	"	Wolf, Geo.	BB♭ Bass.
Johnson, E. M.	"	Brower, G. W.	Drums.
Matthews, H. D.	"	Davis, W. D.	"
Matthews, V.	"	Falloon, F. G.	"
Morgan, L. C.	"	Thompson, H. M.	Tympani.

Total, 64.



COLLEGE BATTALION AND BAND.

History and Resources.

THE income of the College is derived from two sources—national and state. The original land-grant act was signed by President Lincoln July 2, 1862. This act appropriated 30,000 acres of land for each senator and representative in Congress. Under the provisions of this act this state was to receive 90,000 acres. The amount actually received was 82,313.52. This land was to be sold and the proceeds to be a permanent endowment, to be invested in bonds bearing not less than five per cent. interest, the income from these bonds to be used for the support of at least one college in each state. The second provision of section 5 reads as follows: "No portion of said fund, nor interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings." The amount of this endowment is $491,-181. This has been increasing until recently, on account of buying bonds below par. The income derived from this endowment since 1880 is given in the column headed "Income Fund," page 16.

Under this act, the state of Kansas, in 1863, established the State Agricultural College, by endowing Bluemont College, which had been erected two miles from Manhattan, under the auspices of the Methodist Episcopal church, but was presented to the state for the purpose named in the act of Congress.

In 1873 the College was reorganized upon a thoroughly industrial basis, with prominence given to agriculture and sciences related thereto; and in 1875 the furniture and apparatus of the College were moved to the farm of 223 acres, one mile from the city of Manhattan.

In March, 1887, Congress passed the "Hatch bill," which provided for the organization in each state of a station for agricultural experiments, and gave to each an annual appropriation of $15,000 for this purpose. See "Experiment Station," page 22.

On August 30, 1890, another act was passed by Congress, known as the "college-aid bill," or "Morrill bill." It provided for an annual appropriation, beginning with $15,000 for year ending June 30, 1890, with an annual increase for ten years of $1000 over the preceding year, the annual amount thereafter to each state to be $25,000. This money is "to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic sciences, with especial reference to their applications in the industries of life, and to the facilities for such instruction."

TABULATED FINANCIAL EXHIBIT.

Fiscal Year.	State Appropriations.									Inventory increase.	Expense.	National Appropriations.			Enrolment.	Graduates.
	Miscellaneous.	Current expense.	Water and coal.	Regents, etc.	Repairs	Library	Equipment.	Buildings	Total.			Income fund.	Morrill fund.	Hatch fund.		
1863-80								$45,645	$155,302	$86,009						56
1880-81	$17,979[1]			$1,251	$800		$1,950		4,001	3,316	$19,502	$24,766				8
1881-82				1,398		$1,000		15,000	17,398	19,784	27,914	17,622			312	9
1882-83				1,864		1,000		15,000	17,864	24,448	29,660	31,551			347	12
1883-84				1,415	500	500	500	7,500	10,415	12,295	34,844	32,638			395	17
1884-85	4,613[1]			1,637	500	500	500	15,000	18,137	37,105	42,646	32,213			402	14
1885-86				1,798	700		600	10,000	12,098	34,721	45,827	38,595			428	21
1886-87				1,733	1,400			4,100	7,233	12,910	38,788	32,253			481	21
1887-88	2,264[1]			2,047	1,000	1,000	4,700	8,817	17,564	16,597	35,768	32,331		$15,000	472	22
1888-89	3,000[2]			1,815	1,000	1,000	2,500		9,315	10,334	32,027	31,686		15,000	445	25
1889-90			$1,425	300	1,900	1,000	2,900	1,000	8,525	8,732	29,892	34,131		15,000	514	27
1890-91			1,649	3,410	1,200	1,000	2,950		10,209	6,857	43,330	28,765	$31,000	15,000	593	52
1891-92	3,000[2]		325	1,698	3,050	250		4,000	12,323	15,219	50,722	29,654	17,000	15,000	584	35
1892-93			500	456	1,500	250			2,706	18,381	57,012	30,187	18,000	15,000	587	39
1893-94			484	37	1,000			74,000	75,521	7,846	54,989	29,761	19,000	15,000	555	39
1894-95			190	116				2,000	2,295	79,736	51,156	29,390	20,000	15,000	572	57
1895-96	1,625[3]		1,995	1,927	4,300	999	5,057	3,480	17,453	13,933	51,928	26,988	21,000	15,000	647	66
1896-97		$10,000	2,084	1,907	1,300	1,000	550	1,300	18,141	157	51,500	28,669	22,000	15,000	734	55
1897-98	629[4]	5,000	2,000	1,656	1,700	1,000	3,200	16,599	31,584	16,171	56,516	27,677	23,000	15,000	803	69
1898-99		5,000	2,000	1,700	1,000		1,050		10,750	2,993	63,704	29,549	24,000	15,000	870	53
1899-1900	7,360[5]	10,000	2,250	1,850	3,000	1,500	22,240	43,500	91,700	45,582	56,956	25,160	25,000	15,000	1,094	58
1900-01	18,993[6]	10,000	2,250	1,850	3,000	1,500			37,593	3,380	65,822	30,910	25,000	15,000	1,321	60
1901-02	4,130[7]	25,000	2,800	1,850	3,000	1,500	9,100	75,000	122,380	79,917	73,467	26,371	25,000	15,000	1,396	52
1902-03	4,130[7]	30,000	2,800	1,850	3,000	1,500	8,500	10,000	61,780	47,234	22,970	22,970	25,000	15,000	1,574	54
1903-04	15,830[8]	40,000	5,000	2,050	5,000	1,500	18,500	65,000	152,880				25,000	15,000	1,605	
1904-05	5,330[9]	50,000	3,500	2,050	5,000	1,500	18,500	5,000	90,880				25,000	15,000		
Totals									$1,036,047							

[1] To restore endowment (not included in totals). [2] Water mains and sewer.
[3] $1500 cadet uniforms, $125 sewers. [4] Rent, President's house.
[5] $2000 farmers' institutes, $1800 salary state veterinarian, $3000 sewer, $500 rent President's house.
[6] $2000 farmers' institutes, $1800 salary state veterinarian, $300 rent President's house, $14,893 deficiency June 30, 1899.
[7] $2000 farmers' institutes, $1800 salary state veterinarian, $330 rent President's house.
[8] $2000 farmers' institutes, $2000 salary state veterinarian, $330 rent President's house, $10,500 purchase of land, $1000 contingent fund.
[9] $2000 farmers' institutes, $2000 salary state veterinarian, $330 rent President's house, $1000 contingent fund.

Grounds and Buildings.

THE College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing toward the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard and sample gardens attached, the whole being surrounded by durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape-gardener, while well-graveled drives and good walks lead to the various buildings. All these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation rooms are excellently lighted and ventilated, and are heated by steam or hot water. A complete system of sewerage has been provided. The College owns 430 acres of land, valued at $50,000, and leases 150 acres additional. The greater portion of these 580 acres is devoted to experiments.

ANDERSON (MAIN) HALL is 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices of the President and Secretary, cloak-rooms, studies, chapel, post-office, and offices and classrooms of the departments of drawing, music, mathematics, oratory, English, philosophy, preparatory, and printing. Cost, $79,000. The value of the equipment and apparatus in this building is as follows: Executive, $5323; drawing, $2395; music, $2099; mathematics, $1503; oratory, $45; English, $63; preparatory, $48; printing, $5187.

MECHANICS HALL contains the following rooms, forming a connected structure: Wood shop, two stories, 40x103 feet. The upper floor contains office and drafting-room for the department of mechanical engineering. The lower floor contains benches for 220 students, and complete set of wood-working machinery and tools. Machine-shop, 40x80 feet; blacksmith shop, 40x50 feet; iron foundry, 40x50 feet; brass foundry, 16x30 feet; pipe-fitting room, 18x50 feet; engineering laboratory, 35x40 feet; power room, 35x40 feet; boiler room, 40x75 feet. Cost of buildings, $23,125; value of equipment, $30,479.

GYMNASIUM, one story, 35x110 and 46x75 feet of floor space, is in

form of a cross. It contains a drill-room 46x75 feet, a large classroom, cloak-room, dressing-room, toilet-room, ten bath-rooms, and two offices. Cost, $10,000. Value of equipment, $368.

HORTICULTURAL HALL, 32x80 feet, is a one-story building with cellar, having museum, classroom, and storage, with greenhouses attached. Cost of building was $4200; value of equipment and apparatus is $20,092.

HORTICULTURAL LABORATORY contains offices, workroom, five propagating houses, and insectary. Cost, $5000.

ARMORY, 46x95 feet, is a two-story building. This building, which has served many purposes, is now fitted below for an armory and drill-room, and office of military department; also dressing-room and bath-room for the various athletic teams; and above are classrooms, laboratories, offices and museum of the veterinary department. Cost of building, $11,250. Value of equipment and apparatus: Military, $1323; veterinary, $5957.

FAIRCHILD (LIBRARY) HALL is 100x140 feet, three and four stories high. This building provides permanent quarters for the library, with ample reading-rooms and offices, classrooms and laboratories for the departments of botany, entomology and zoölogy, and bacteriology, a classroom and office for the department of history and economics, general museum, and rooms for the various literary societies. Cost of building, $67,750. Value of equipment and apparatus: Botany, $14,300; history and economics, $162; entomology and zoology, $9086.

KEDZIE (DOMESTIC SCIENCE) HALL is 84x70 feet, two stories and basement. The first floor contains office, lecture-rooms and laboratories for the department of domestic science. The second floor is occupied by the department of domestic art. Cost of building, $15,000. Value of apparatus: Domestic science, $1285; domestic art, $544.

AGRICULTURAL HALL, 90x95 feet, with its two stories and basement, contains offices, classrooms and laboratories for the departments of agriculture and animal husbandry. Cost of building, $25,000. Value of equipment: Agriculture, $2180; animal husbandry, $32,927.

PHYSICAL SCIENCE HALL is 96x166 feet, and its two stories and basement contain offices, classrooms and laboratories for the departments of chemistry, and physics and electrical engineering. It is heated both by direct and indirect radiation, thus insuring perfect ventilation. Cost of building, $70,000. Value of equipment: Chemistry, $8411; physics and electrical engineering, $7969.

AUDITORIUM is 113x125 feet, and has a seating capacity of 3000. Cost of building, $40,000.

DAIRY HALL is 72x103 feet, one story and basement. It contains office, classroom, butter-manufacturing room, cheese- and cheese-curing rooms, hand-separator room, laboratory, and refrigerator. Cost of building, $15,000; value of equipment, $3598.

THE FARM BARN is a double but connected stone structure, 50x75 feet and 48x96 feet, with an addition of sheds and experimental pens 40x50 feet. The south wing, 48x96 feet, is the stock-judging room, having a seating capacity of 350. A basement underlies the entire structure. Cost, $10,831.

THE DAIRY BARN, 40x175 feet, is fitted up with modern swinging stalls for eighty head of cows, arranged in two rows, with driveway between. Cost of building and equipment, $4000.

THE HORTICULTURAL BARN is a stone building, containing storeroom, granary, and stables for several horses. Cost, $1000.

THE COLLEGE LIBRARY is one of the most important supplements to classroom instruction. It consists of 26,700 bound volumes and about 18,000 pamphlets. These books are mainly kept in a general library, but many volumes of technical character are withdrawn and held in departmental libraries. All of the books are indexed in card catalogues, which show their author, title, and to a large degree the details of their contents; also their location. Students are allowed free access to the shelves, a privilege and a source of culture that are given in perhaps no other library of its size in the country. Students may draw books for home use under simple and liberal regulations. The library is open daily, except on legal holidays, from seven A. M. to six P. M., and the librarian or an assistant is in constant attendance during this period to assist those who use the books. By all these means the library is used to the fullest extent and is of inestimable value.

The College subscribes for the leading literary, scientific and agricultural journals, while the principal daily and weekly papers of Kansas, and many from other states, are received in exchange for the College publications. All these are kept on file for the use of students and Faculty. The College has been designated as the depository of United States public documents for the fifth congressional district of Kansas, and 3000 volumes have already been received on this account. Value of books and equipment, $57,495.

MAIN ENTRANCE.

MAIN DRIVE.

Objects.

This College now accomplishes the objects of its endowment in several ways:

First. It gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second. It teaches the sciences applied to the various industries of farm, shop, and home. Chemistry, physics, botany, entomology, zoölogy and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants and animals themselves illustrates and fixes the daily lessons. At the same time lessons in agriculture, horticulture, engineering and household economy show the application of science; and all are enforced by actual experiment.

Third. It trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm and household departments is made a part of the general education for usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.

Fourth. It seeks to extend the influence of knowledge in practical affairs beyond the College itself. For this purpose, farmers' institutes have been organized in nearly every county of the state, in which from one to three members of the Faculty share with the people in lectures, essays and discussions upon topics of most interest to farmers and their families. These institutes have brought the College into direct sympathy with the people and their work, so as to make possible a general dissemination of the truths presented. Members of the Faculty are also prominently connected with the state associations for the promotion of agriculture, horticulture, and natural sciences, and education in general. Correspondence as to farmers' institutes or any question of practical interest in agriculture or related sciences is desired.

The *Industrialist*, published by the College, edited by the Faculty, and furnished to each student, gives a wide circulation to matters of interest in the College.

THE EXPERIMENT STATION.

The Agricultural Experiment Station of the College is organized and maintained under the provisions of what is known as the "Hatch act," and is officially designated as "An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July 2, 1862, and the acts supplementary thereto." This was enacted "in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and practice of agricultural science." The law specifies in detail "that it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses for forage-plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The Experiment Station, so established, is an important feature of the College. The President of the College, with the professors of agriculture, botany, chemistry, dairy and animal husbandry, horticulture, entomology, and veterinary science, form the Experiment Station Council, by authority of which experiments are undertaken, and carried on in the several departments under supervision of the professors. The heads of certain important departments of instruction in the College are thus also in charge of the several departments of investigation of the Station, and to a certain extent assistants serve in both capacities. The Experiment Station, therefore, is not definitely localized at the institution, but its work and property are more or less woven in with that of the College. The expenses of the Experiment Station work are separately accounted for, however, and its property is listed in separate inventories. While this arrangement involves some difficulties, it also possesses many advantages—advantages which are mutual. The College work profits by having the investigations of the Sta-

tion going on alongside. The Station profits in that it thus obtains, without charge, the use of the College farm, buildings, heat, light, various collections, museums, and in some cases apparatus. The expenses of the Experiment Station are met by an appropriation by Congress of $15,000 per annum. The aims of the Station may be said to be twofold—those which lead to immediate returns, and those the object of which can be reached only after a series of years. Experiments of the greatest value are often of the latter kind, but if the work of the Station were limited to such, the public would feel that nothing is being accomplished. It is the intention of the Station force to make all of its experiments practical, in the sense that they lead to results which, indirectly if not directly, benefit the agricultural interests of the country.

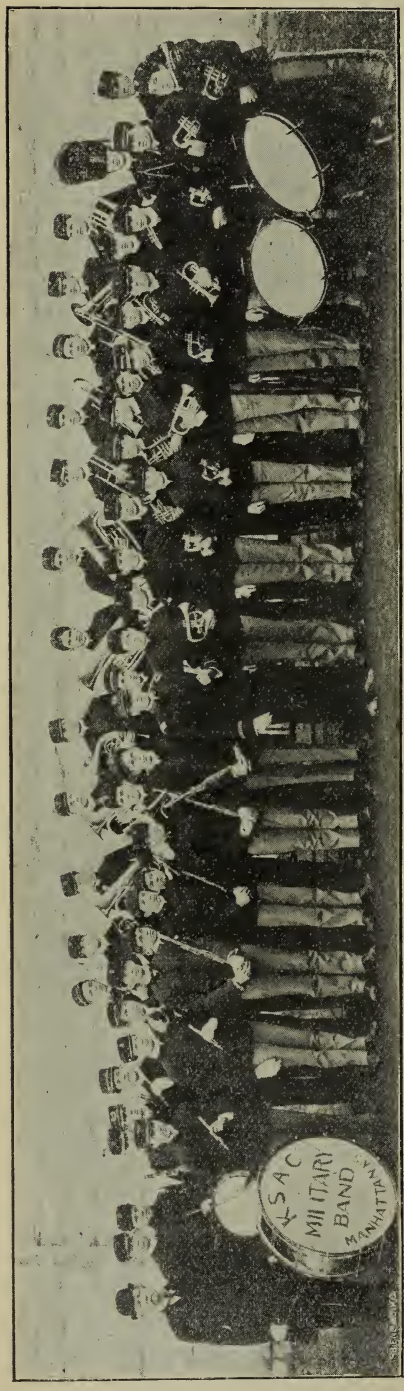
The Hatch act provides "that bulletins or reports of progress shall be published at least once in three months, one copy of which shall be sent to each newspaper in the state or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the Station will permit." The publications of the Station include annual reports, bulletins, and press bulletins.

Since 1889 the annual reports contain no details of experiments, but simply outlines of the work of the year in general and in the several departments, and including the financial statements required by law. These annual reports, not being of general interest, therefore, are printed in but small numbers, and sent to libraries and officials only, except on special request.

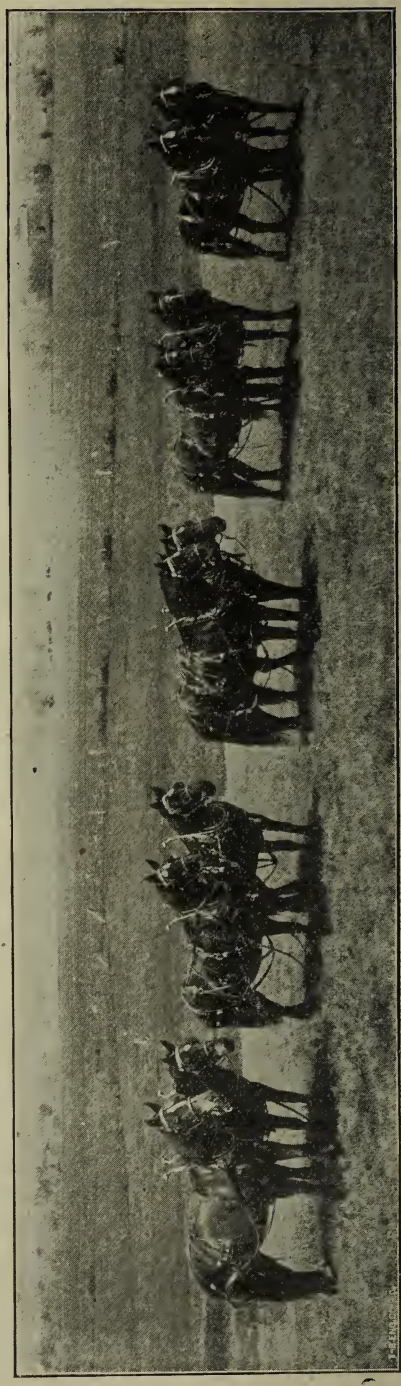
The bulletins are the means of communicating the results of the Station work directly to the farmers. They are issued in the quantities judged necessary to meet the demand. All investigations are described in them when completed, and they are sent to all on our mailing-lists. During the history of the Station the number issued has averaged about eight per annum.

The press bulletins are issued in limited numbers and sent to the papers, to certain state and county officers, and to a considerable number of public or semi-public institutions. They are short, readable, and popular, but at the same time accurate, articles on subjects of current interest, and embodying observations and experiments of members of the Station staff. Extra copies of some of them are printed for use in answering inquiries.

Persons desiring to receive the Station bulletins are requested to address Agricultural Experiment Station, Manhattan, Kan. General correspondence in reference to the Station should be sent in the same way, but inquiries concerning any special line of investigation should be sent to the head of the department in charge of such work.



COLLEGE BAND.



COLLEGE TEAMS.

Fort Hays Branch Station.—Congress, in an act approved March 27, 1900, ceded the Fort Hays military reservation, containing 7597.93 acres, to the state of Kansas, on condition that the state would establish and maintain there branches of the State Normal School and of the Experiment Station. The state legislature accepted the reservation in an act approved February 7, 1901, and designated a division of the land between the Normal School and the Agricultural College, by which the latter obtained about 3500 acres, including the parts most desirable for agricultural purposes. Situated west of the ninety-ninth meridian, the station will occupy a field entirely different climatically from that of any other station in the country, and the results obtained there ought to benefit a large region extending even beyond the boundaries of the state. Experiments will be tried on a large scale in making tests of varieties and methods of culture, with special reference to the needs of regions with deficient rainfall. Experiments will be made to determine the feeding value of the drought-resisting crops produced. This branch station is supported by a state appropriation. The funds appropriated by Congress cannot be used for the support of substations.

INDUSTRIAL TRAINING.

This institution is preëminently industrial in its aims, methods, and tendencies. While the pure sciences, mathematics and other studies are rigorously taught, there is constantly present a practical atmosphere which incites the student to an application of the principles taught, and thus lends interest and value to the work. In nearly every term of the four-year course the student gives one hour per day to industrial training of one kind or another. This awakens and deepens sympathy with industry and toil, impresses the student with the essential dignity of labor, thus educating toward the industries instead of away from them, and lays a good foundation for a life-work in industrial and technical lines. Even should students not all return to the farm, the shop, or to housewifery, the wider knowledge afforded them and the broader sympathies engendered cannot but redound to their good. and to the advantage of society at large and the industrial classes in particular.

Throughout the first year young men take their industrial in the shops. They thus get a familiarity with tools and methods which enables them to do the wood- and ironwork commonly needed on the farm, and which is useful to all everywhere. The young women take sewing during the first year, and a certain amount of cooking practice. The utility of this needs no argument. After the first year there are differences in the industrial requirements corresponding to differences in the several courses of study. In the domestic science course the

various lines of household art constitute almost the entire industrial work, floriculture being given one term. In the mechanical engineering course shop work in one or another of its various kinds is required every term. In the agriculture course the industrials include practical instruction in the fields, orchards, gardens, and dairy, and in feeding. The general science course offers more latitude in choice of industrials after the first year. Young women may take sewing, cooking, printing, floriculture, or music. Young men may have woodwork, ironwork, dairying, farming, gardening, fruit-growing, or printing. The availability of these industrials depends somewhat on the season in some cases, so that not all are open each term. In addition to the above, a limited number of students is allowed typewriting as the industrial, upon recommendation of the head of a department having a machine.

The labor of students during assigned industrial time is not paid for, as its object is educational, and the student receives full value in the training afforded. In all the instruction in industrial lines special attention is given to making the courses systematic and progressive. Students desiring to give extra attention to such work are allowed every opportunity that the departments can afford. Many students acquire sufficient proficiency to be able to turn their skill to a financial advantage during the latter terms of their courses, and all who apply themselves with any diligence obtain a training that cannot fail to be of great benefit to them in after-life. The work of the several industrials will be found described in detail under the individual headings.

SPECIAL COURSES.

Persons of suitable age and advancement, who desire to pursue such branches of study as are most directly related to agriculture or other industries, may select such studies, under the advice of the Faculty.

GRADUATE COURSES.

Arrangements can be made for advanced study in the several departments at any time, and outlines of courses will be furnished on application. The electives of the extended course are open to graduates, and special opportunities will be given for investigation and research. Every facility for advancement in the several arts taught at the College will be afforded such students, though they are not required to pursue industrial training while in these courses.

DEGREES.

The degree of bachelor of science is conferred upon students who complete the full course of four years and sustain all the examinations. This degree entitles the holder to credit for studies pursued in any application for state teachers' certificate. (See Laws of 1893.)

The degree of master of science will be conferred in course upon graduates of the College who have received eighteen credits in an approved graduate course, each credit being equivalent to a full study pursued for three months.

Courses will be approved which are in line with any one of the regular undergraduate courses, and include at least six credits in the biological or the physical sciences, or mathematics, and at least six credits in technical or industrial branches.

The principal line of study shall be designated as the major, and another line as the minor study. As nearly as may be, one-third of the time is to be given to the minor and two-thirds to the major study, including in the latter such scientific, mathematical or technical branches as contribute directly to it. The minor study must fill a logical place in the scheme, so that the work as a whole may possess unity. Three minor credits may be a modern language.

Applications for graduate study shall be passed upon by the committee on graduate courses and referred by them to the Faculty for action. If approved by the Faculty, the candidate shall obtain an assignment at the beginning of each term for the studies intended to be pursued during the ensuing term. At the close of each term examinations shall be given in all branches, and the candidate shall be reported as "passed" or "not passed."

Applications for entrance upon graduate study and for changes in major or minor subjects must be presented to the committee on graduate courses within the first week of a College term.

Non-resident candidates will be required to send to the professors in charge of the departments of their major and minor subjects a full and complete report at the middle and end of each term of the work accomplished within that period. Failure to comply with this requirement will cause the candidate to be dropped from the roll of graduate students, to be reinstated only upon approval of the Faculty. At the end of each term the date, place and manner of the examination of non-residents shall be determined by the instructors concerned.

Upon the completion of the required work, and by the 15th day of May of the year in which the degree is desired, each candidate shall present to the committee on graduate courses, typewritten and in duplicate, a satisfactory thesis involving original work along the line of his major subject. Thereupon a special examining committee of three shall be appointed from the Faculty, of whom one member shall represent the major subject and another the minor, who shall examine the candidate orally on the subject-matter of his thesis, and report the result of such examination to the Faculty. Upon receipt

of the report of this committee, the Faculty will take action concerning the recommendation of the candidate for the degree.

The subject of the thesis must be presented to the committee on graduate courses for approval by the 1st day of January preceding the commencement at which the degree is desired.

Outlines of direction for study and research in various arts and sciences, with special adaptation to the wants and opportunities of individual applicants, will be furnished, at request, to all graduates; and professors in charge will gladly aid by correspondence in any researches undertaken.

The degree of master of science may be conferred upon the graduates of other colleges of like grade with our own, provided the applicant shall first satisfy the Faculty of his proficiency in the industrial studies distinctive of this institution, on the following conditions:

1. The applicant for the master's degree must be a graduate of at least three years' standing, and a resident of Kansas.

2. His graduate study shall have been in line with that required of graduates of this College, as published in our catalogue.

3. He must make application for the degree on or before the 1st day of January preceding the granting of the same. The application must be accompanied with a statement of his course of study, the work upon which the claim for the degree is based, and the subject selected for his thesis.

4. By April 1, an abstract of the thesis must be submitted to the Faculty.

5. Before May 15, the applicant shall present himself for examination. The examination shall be thorough and extensive, and shall be conducted by a special committee of the Faculty.

COURSES OF STUDY.

With a view to providing for the wants of the various classes of students, the following courses of study are offered:

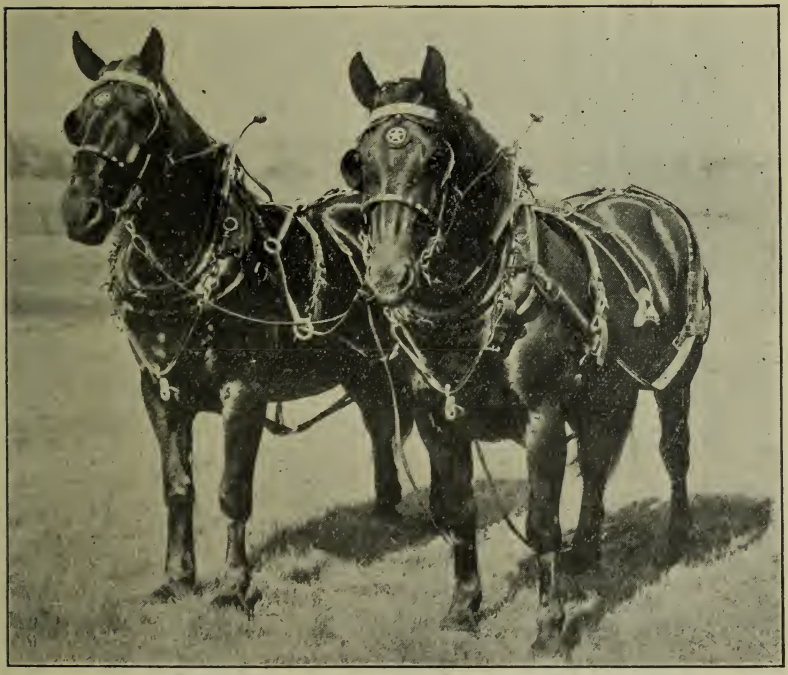
1. Four-year courses, each leading to the degree of bachelor of science: (*a*) General science; (*b*) agriculture; (*c*) domestic science; (*d*) mechanical engineering; (*e*) electrical engineering.

2. Short courses in (*a*) dairying, (*b*) domestic science, (*c*) agriculture.

Full explanations of the several courses, and of the studies included in them, will be found under the proper headings, and a general view of the four-year courses is given on the pages following.

All the preparatory and first-year subjects are taught each term, so that students may enter at any term. Students can complete nearly all the work of the first two years by attendance during winter terms only.

GALLOWAY BULL.



PERCHERON TEAM.

ALL COURSES.

FALL TERM.	Geometry I	5
	English Classics	5
	Botany II	5
	Field-work	2
	Free-hand Drawing	2
	Woodwork I or *Sewing I*	4
	Drill	4
	Physical Training or *Music*	4
WINTER TERM.	Geometry II	5
	Advanced Composition	5
	Cooking or Agriculture	5
	Elementary Psychology	1
	Woodwork II or *Sewing II*	3
	Object and Geometrical Drawing	4
	Drill	4
	Physical Training or *Music*	4
SPRING TERM.	Algebra IV	5
	Rhetoric I	5
	Physics	5
	Laboratory	2
	Blacksmithing I or *Sewing III*	4
	Elementary Projection	2
	Drill	4
	Physical Training or *Music*	4

Music is optional throughout the course.

FOUR YEAR COURSES.

Figures following studies show class hours per week. Subjects in *italic type* require no study outside of class.

Military drill is optional for young men of the third and fourth years.

The electives are chosen under the direction of the Faculty. In each case, the electives are expected to be in the same line as nearly as possible. The following list is announced for the different courses:

AGRICULTURE.

German	German	German.
Dairying	Dairying	Dairying.
Origin of Breeds and Stock Judging	Live-stock Management and Animal Products	Pedigrees and Advanced Feeding.
Pomology	Forestry	Ornamental Gardening.
Plant Diseases	Plant Morphology	Plant-breeding.
Bacteriology	Bacteriology	Bacteriology.
Chemistry	Chemistry	Chemistry.
Veterinary Science	Veterinary Science	Veterinary Science.
Soil Physics	Farm Mechanics II	Crop Production II.

DOMESTIC SCIENCE.

Trigonometry	Physics I	Physics II.
Logic	Ethics	American Literature.
Geology	Plant Morphology	Vegetable-gardening.
History of Education and School Law	Philosophy of Education	Methods and Management.
Bacteriology	Bacteriology	Bacteriology.
Chemistry	Chemistry	Chemistry.

GENERAL SCIENCE.

Analytical Geometry	Differential Calculus	Integral Calculus.
Domestic Science I	Domestic Science II	Domestic Science III.
Animal Nutrition	Breeds of Stock	Animal Breeding.
Dairying	Crop Production	Farm Mechanics and Management.
Entomology	Entomology	Entomology.
Chemistry	Chemistry	Chemistry.
History of Education and School Law	Philosophy of Education	Methods and Management.
Bacteriology	Bacteriology	Bacteriology.
Music	Music	Music.

For outline of instruction, see page 45 *et seq.*

COURSES OF STUDY—Second Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	Chemistry I..... 5 *Laboratory*..... 2 Dairying..... 2½ *Laboratory*..... 6 Trigonometry..... 5 *Surveying*..... 2 Public Speaking I..... 2½ *Drill*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Entomology..... 5 *Laboratory*..... 2 German..... 5 Public Speaking I..... 2½ *Physical Training*..... 4 or *Music*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Trigonometry..... 5 *Surveying*..... 2 German..... 5 *Industrial*..... 4 *Drill*..... 4 *Physical Training*..... 4 or *Music*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Trigonometry..... 5 *Surveying*..... 2 Shop Lectures I..... 1 German..... 5 *Projection Drawing*..... 2 *Blacksmithing II*..... 2 *Drill*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Trigonometry..... 5 *Surveying*..... 2 Shop Lectures I..... 1 German..... 5 *Projection Drawing*..... 2 *Blacksmithing II*..... 2 *Drill*..... 4
WINTER TERM.	Chemistry II..... 5 *Laboratory*..... 2 Breeds of Stock..... 2½ *Stock Judging*..... 4 Physiology..... 5 *Laboratory*..... 2 Public Speaking II..... 2½ *Drill*..... 4	Chemistry II..... 5 *Laboratory*..... 2 Horticulture..... 5 *Floriculture*..... 2 German..... 5 *Dressmaking and Fabrics*, 6 *Physical Training*..... 4 or *Music*..... 4	Chemistry II..... 5 *Laboratory*..... 2 Entomology..... 5 *Laboratory*..... 2 German..... 5 Public Speaking I..... 2½ *Projection Drawing*..... 2 *Drill*..... 4 *Physical Training*..... 4 or *Music*..... 4	Chemistry IV..... 2½ *Laboratory*..... 4 Kinematics..... 5 German..... 5 *Descriptive Geometry*... 4 Public Speaking I..... 2½ *Foundry*..... 2 *Drill*..... 4	Chemistry IV..... 2½ *Laboratory*..... 4 Kinematics..... 5 German..... 5 *Descriptive Geometry*..... 4 Public Speaking I..... 2½ *Foundry*..... 2 *Drill*..... 4
SPRING TERM.	Chemistry III..... 2 *Laboratory*..... 8 Horticulture..... 5 *Laboratory*..... 4 Entomology..... 5 *Laboratory*..... 2 *Drill*..... 4	Chemistry III..... 2½ *Laboratory*..... 6 Physiology..... 5 *Laboratory*..... 2 Public Speaking II..... 2½ German..... 5 *Physical Training*..... 4 or *Music*..... 4	Chemistry III..... 2 *Laboratory*..... 8 Physiology..... 5 *Laboratory*..... 2 Public Speaking II..... 2½ German..... 5 *Drill*..... 4 *Physical Training*..... 4 or *Music*..... 4	Chemistry V..... 2½ *Laboratory*..... 4 German..... 5 Analytical Geometry.... 5 Public Speaking II..... 2½ Shop Lectures II..... 1 *Mechanical Drawing I*, 2 *Pattern-making*..... 2 *Drill*..... 4	Chemistry V..... 2½ *Laboratory*..... 4 German..... 5 Analytical Geometry..... 5 Public Speaking II..... 2½ Shop Lectures II..... 1 *Mechanical Drawing I*... 2 *Pattern-making*..... 2 *Drill*..... 4

Music is optional throughout the course.

For outline of instruction, see page 45 *et seq.*

COURSES OF STUDY—Third Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	European History ..... 5 Veterinary Science ..... 5 Animal Nutrition..... 5 Bacteriology..... 2½ *Laboratory*..... 4 *Horticulture Laboratory* 2	Rhetoric II ..... 5 Human Nutrition ..... 5 Domestic Science I ..... 2 *Laboratory*..... 4 German ..... 2½ *Color and Design* ..... 4 *Laundering* ..... 2 *Music elective.*	European History..... 5 Horticulture..... 5 Rhetoric II..... 5 German ..... 2½ *Linear Perspective*..... 4 *Industrial*..... 2	Differential Calculus.... 5 Physics I..... 5 *Laboratory*..... 4 Mechanics ..... 2½ Shop Lectures III..... 1 *Machine-shop I*..... 4 *Mechanical Drawing II*, 4	Differential Calculus..... 5 Physics I..... 5 *Laboratory*..... 4 Mechanics ..... 2½ Shop Lectures III..... 1 *Machine-shop I* ..... 4 *Mechanical Drawing II*.. 4
WINTER TERM.	Civics ..... 5 Crop Production ..... 5 *Grain Judging*..... 2 Rhetoric II ..... 5 *Agricultural Chemistry Laboratory*..... 6	European History ..... 5 Zoology ..... 5 *Laboratory*..... 4 Domestic Science II..... 2 *Laboratory*..... 4 German ..... 2½ *Music elective.*	Civics ..... 5 Bacteriology..... 2½ *Laboratory*..... 4 Physics I..... 5 *Laboratory*..... 4 German 2½	Integral Calculus..... 5 Physics II ..... 5 *Laboratory*..... 4 European History ..... 5 *Mechanical Drawing III*..... 4 *Machine-shop II*..... 2	Integral Calculus..... 5 Physics II..... 5 *Laboratory*..... 4 European History ..... 5 *Mechanical Drawing III*, 4 *Machine-shop II*..... 2
SPRING TERM.	American History ..... 5 Stock Feeding ..... 3 Agricultural Chemistry.. 2 Vegetable-gardening .... 5 Farm Mechanics and Management..... 5	Civics ..... 5 Home Decoration..... 2½ Bacteriology..... 2½ *Laboratory*..... 4 Domestic Science III..... 2 *Laboratory*..... 4 Home Nursing..... 2½ German ..... 2½ *Music elective.*	American History ..... 5 Zoology ..... 5 *Laboratory*..... 4 Physics II..... 5 *Laboratory*..... 2 German 2½	Definite Integrals..... 2½ Valve Gears..... 2½ Civics ..... 5 Rhetoric II ..... 5 Shop Lectures IV ..... 1 *Machine-shop III*..... 4 *Mechanical Drawing IV* 4	Differential Equations.... 2½ Electricity..... 5 *Laboratory*..... 6 Civics ..... 5 Rhetoric II 5

Music is optional throughout the course.

For outline of instruction, see page 45 *et seq.*

COURSES OF STUDY—Fourth Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.
FALL TERM.	Physics I..... 5 *Laboratory*..... 4 Zoology ..... 5 *Laboratory*..... 4 Elective 5	American History ..... 5 English Literature I ..... 5 Household Management .. 5 Elective..... 5	Logic..... 5 Geology..... 5 Economics..... 5 Elective..... 5	American History ..... 5 Economics..... 5 Steam-boilers..... 2½ *Eng. Laboratory I*..... 2 Graphic Statics..... 2½ Shop Lectures V..... 1 *Machine-shop IV*..... 2 *Mechanical Drawing V*, 4	American History ..... 5 Economics..... 5 Direct-current Machines.. 5 *Laboratory*..... 4 *Mechanical Drawing IV*, 4 *Electrochemistry*..... 2
WINTER TERM.	Physics II ..... 5 *Laboratory*..... 2 Economics..... 5 Geology..... 5 Elective..... 5	English Literature II ..... 5 Dietetics..... 2½ *Laboratory*..... 6 Psychology ..... 5 Elective..... 5	English Literature I ..... 5 Plant Morphology..... 5 *Laboratory*..... 4 Elective..... 5 *Industrial*..... 4	English Literature..... 5 Thermodynamics I ..... 5 *Eng. Laboratory II*..... 4 Applied Mechanics..... 5 Shop Lectures VI..... 1 *Machine-shop V*..... 2 *Mechanical Drawing VI* 2	Direct-current Machines.. 5 *Laboratory*..... 4 English Literature ..... 5 Applied Mechanics..... 5 *Eng. Laboratory I*..... 4 *Machine-shop III.* 2
SPRING TERM.	English Literature..... 5 Animal Breeding ..... 5 Elective..... 5 Thesis..... 5	Therapeutic Cookery..... 2 *Laboratory*..... 4 Economics..... 5 Elective..... 5 Thesis..... 5	English Literature II ..... 5 Psychology..... 5 Elective..... 5 Thesis..... 5	Applied Mechanics..... 5 Thermodynamics II ..... 2½ Hydraulics..... 2½ *Mechanical Drawing VII*..... 4 Thesis..... 5 *Eng. Laboratory III*... 2	Alternating-current Machines ..... 5 *Laboratory*..... 4 Hydraulics..... 2½ Power Stations..... 2½ *Dynamo Design*..... 4 Thesis..... 5

Music is optional throughout the course.

For outline of instruction, see page 45 *et seq.*

Agriculture Course.

This is an age of specialists, yet the specialist is far better equipped for his life-work if he is well grounded in the fundamental branches of knowledge. The College is better equipped than ever before, in the special lines of agriculture, horticulture, and animal husbandry, for giving the student thorough preparation and training in these lines. The sciences which are related to agriculture are not slighted, and all of the essential fundamental studies are given.

The young men who take the agriculture course will not only be well prepared successfully to carry on various lines of farming for themselves, but they will be competent to act as foremen, and, after some experience, as managers and superintendents of large farms or other agricultural interests. They will also be prepared to take positions in our agricultural colleges and experiment stations as instructors and assistants. More than this, the graduate from the agriculture course, whatever calling he may choose or wherever he may make his home, will be a strong and influential citizen as well as a skilful producer, because, while the studies of the agriculture course are primarily practical, emphasizing the business side of life, yet enough "culture" studies are offered to give the student a well-balanced and well-rounded education.

The time has passed, my young farmer friend, when an uneducated and unskilled man can become a successful farmer and a man among men. It is not so easy to make a good living at farming to-day as it was forty or even twenty years ago. The soil is poorer, competition is greater. There are many educated, hustling men engaged in the various lines of farming to-day, and if you want successfully to compete with them you must be educated, too. You must understand the soil and the great principles of cultivation, aeration, and soil-moisture conservation. You must know the science of plant growth and propagation; you must know the chemistry of the plant and of the soil. You must learn the principles of animal nutrition and balanced rations in stock-feeding. You must study the animal and be practiced in stock judging, in order to select your breeding stock. You must know a thousand things about agriculture which you do not know now, if you hope successfully to compete with those who have knowledge and training in these things.

The motto of the Agricultural College is *practice with science.* This does not mean, however, that the agriculture course student is put to work on the farm. The agriculture course is a course of study, not of manual labor. Some manual labor is required as practice work in the field and laboratory. The student is taught to handle tools in carpentry and blacksmithing; he is given some practice in handling stock, grafting, tree-planting, and general farm management. He is not sent into the fields to plow, harrow, or cultivate, but he has an opportunity to observe the best methods of farm practice and become acquainted with the great principles of agriculture which apply everywhere and upon which crop production and stock-breeding and raising depend.

Every young farmer in the state of Kansas should take the agriculture course. It does not matter so much how long a man lives, as how much he lives, and one can live so much more and accomplish so much more after spending four years in College, that the time spent is never missed. Every young man can find means to carry him through College. "Where there is a will there is a way."

Agriculture Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	74
English Classics	5	66
Botany II	5	48
Field-work	2	48
Free-hand Drawing	2	63
Woodwork I	4	75
Drill	4	80

WINTER TERM:

Geometry II	5	74
Advanced Composition	5	67
Agriculture	5	45
Elementary Psychology	1	85
Woodwork II	3	75
Object and Geometrical Drawing	4	63
Drill	4	80

SPRING TERM:

Algebra IV	5	74
Rhetoric I	5	67
Physics	5	88
Laboratory	2	88
Blacksmithing I	4	75
Elementary Projection	2	63
Drill	4	80

Second Year.

FALL TERM:

Chemistry I	5	51
Laboratory	2	52
Dairying	2½	56
Laboratory	6	56
Trigonometry	5	74
Surveying	2	74
Public Speaking I	2½	95
Drill	4	80

WINTER TERM:

Chemistry II	5	51
Laboratory	2	54
Breeds of Stock	2½	56
Stock Judging	4	56
Physiology	5	96
Laboratory	2	96
Public Speaking II	2½	95
Drill	4	80

SPRING TERM:

Chemistry III	2	51
Laboratory	8	54
Horticulture	5	72
Laboratory	4	72
Entomology	5	68
Laboratory	2	68
Drill	4	80

Third Year.

FALL TERM:

European History	5	70
Veterinary Science	5	96
Animal Nutrition	5	52
Bacteriology	2½	96
Laboratory	4	96
Horticulture Laboratory	2	72

WINTER TERM:

Civics	5	70
Crop Production	5	45
Grain Judging	2	45
Rhetoric II	5	67
Agricultural Chemistry Laboratory	6	54

SPRING TERM:

American History	5	70
Stock Feeding	3	56
Agricultural Chemistry	2	52
Vegetable-gardening	5	72
Farm Mechanics and Management	5	46

Fourth Year.

FALL TERM:

Physics III	5	88
Laboratory	4	88
Zoology	5	68
Laboratory	4	68
Elective	5	30

WINTER TERM:

Physics IV	5	88
Laboratory	2	89
Economics	5	71
Geology	5	69
Elective	5	30

SPRING TERM:

English Literature	5	67
Animal Breeding	5	56
Elective	5	30
Thesis	5	—

Domestic Science Course.

The aim of the domestic science course is both specific and general. Technically it is an application of the sciences of bacteriology to the study of home sanitation and hygiene, of physiology and chemistry to the composition of foods and their effect, of physics as applied to heating and lighting. These sciences necessarily, therefore, underlie the successful and intelligent conduct of the home, whether it be large or small, and must be included in any well-arranged course of domestic science. In the kitchen laboratory a standard system of measurement is taught, and constant emphasis is placed upon neatness, accuracy and economy in the handling of the material and utensils. The instruction in domestic art includes all the various kinds of hand sewing, the making of plain garments, and a complete system of dressmaking. Thus, while the course is based upon studies of a thoroughly scientific nature, the laboratory and industrial features characteristic of the College are made highly practical and are continued throughout the course.

While the domestic science course emphasizes, primarily, the practical and material side of life, it does not stop here. To the end that well rounded culture may be secured, studies are offered in this course in English, history, economics, psychology, and public speaking. The young women are constantly reminded that life is not all drudgery; that technical knowledge and scientific skill, even, fail to include the full meaning of education in its highest sense. They are taught that any training that fails to develop, harmoniously, body, mind and spirit is inadequate and incomplete. They are brought face to face with ideals as well as with actualities; and are made to see that, while skilful labor is the crowning dignity of life, grace, refinement and self-poise are the highest ingredients of true service.

The elective during the fourth year gives considerable opportunity to specialize in some chosen line.

KEDZIE (DOMESTIC SCIENCE) HALL.

Domestic Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	74
English Classics	5	66
Botany II	5	48
Field work	2	48
Free-hand Drawing	2	63
Sewing I	4	59
Physical Training or *Music*,	4	86

WINTER TERM:

Geometry II	5	74
Advanced Composition	5	67
Cooking	5	60
Elementary Psychology	1	85
Sewing II	3	59
Object and Geometrical Drawing	4	63
Physical Training or *Music*,	4	86

SPRING TERM:

Algebra IV	5	74
Rhetoric I	5	67
Physics	5	88
Laboratory	2	88
Sewing III	4	59
Elementary Projection	2	63
Physical Training or *Music*,	4	86

Second Year.

FALL TERM:

Chemistry I	5	51
Laboratory	2	52
Entomology	5	68
Laboratory	2	68
German	5	70
Public Speaking I	2½	95
Physical Training or *Music*,	4	86

WINTER TERM:

Chemistry II	5	51
Laboratory	2	54
Horticulture	5	72
Floriculture	2	72
German	5	70
Dressmaking and Fabrics,	6	56
Physical Training or *Music*,	4	86

SPRING TERM:

Chemistry III	2½	51
Laboratory	6	54
Physiology	5	96
Laboratory	2	96
Public Speaking II	2½	95
German	5	70
Physical Training or *Music*,	4	86

Third Year.

FALL TERM:

Rhetoric II	5	67
Human Nutrition	5	52
Domestic Science I	2	60
Laboratory	4	60
German	2½	70
Color and Design	4	64
Laundering	2	60
Music elective.		

WINTER TERM:

European history	5	70
Domestic Science II	2	60
Laboratory	4	60
Zoölogy	5	68
Laboratory	4	68
German	2½	70
Music elective.		

SPRING TERM:

Civics	5	70
Home Decoration	2½	64
Bacteriology	2½	96
Laboratory	4	96
Domestic Science III	2	60
Laboratory	4	61
Home Nursing	2½	60
German	2½	70
Music elective.		

Fourth Year.

FALL TERM:

American History	5	70
English Literature I	5	67
Household Management	5	61
Elective	5	30

WINTER TERM:

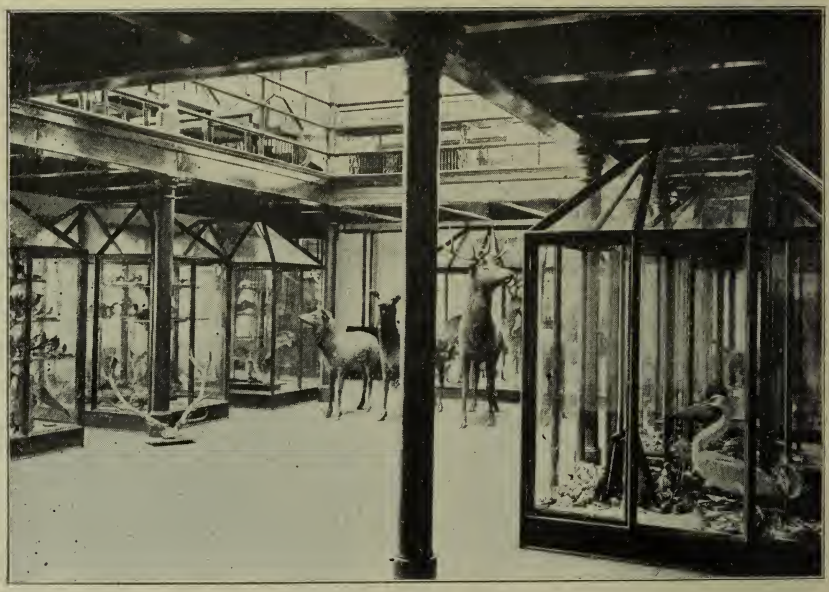
English Literature II	5	67
Dietetics	2½	61
Laboratory	6	61
Psychology	5	85
Elective	5	30

SPRING TERM:

Therapeutic Cookery	2	61
Laboratory	4	61
Economics	5	71
Elective	5	30
Thesis	5	—

General Science Course.

This course is designed to meet the wants of those who seek to obtain a sound and liberal education through the study of the mathematical, physical and natural sciences, English language, and history. It is well adapted to the student who has not yet decided upon his life-work, or who wishes to make this a foundation for further study. It is based on the principle of "a general knowlege of all things before a special knowledge of a few." It will be well worth one's time to take this course before beginning the work of a technical or professional course. Laboratory and industrial work are a feature of this course, as of all others. The electives continuing through the fourth year gives opportunity for some special lines, as follows: Young men may take analytical geometry, differential and integral calculus with the engineering students, by delaying American history till the spring term, fourth year, and young women may take the three terms in domestic science with the third-year women of the domestic science course. Other electives are announced on page 30. In each case, the electives for the three terms are expected to be in the same line as nearly as possible.



FIRST-FLOOR MUSEUM.

General Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:		
Geometry I	5	74
English Classics	5	66
Botany II	5	48
Field-work	2	48
Free-hand Drawing	2	63
Woodwork I or *Sewing I*	4	75
Drill	4	80
Physical Training or *Music*	4	83
WINTER TERM:		
Geometry II	5	74
Advanced Composition	5	67
Cooking or Agriculture	5	60
Elementary Psychology	1	85
Woodwork II or *Sewing II*, *Object and Geometrical Drawing*	3	75
	4	63
Drill	4	80
Physical Training or *Music*	4	83
SPRING TERM:		
Algebra IV	5	74
Rhetoric I	5	67
Physics	5	88
Laboratory	2	88
Blacksmithing I or *Sewing III*	4	75
		59
Elementary Projection	2	63
Drill	4	80
Physical Training or *Music*	4	83

Second Year.

FALL TERM:		
Chemistry I	5	51
Laboratory	2	52
Trigonometry	5	74
Surveying	2	74
German	5	70
Industrial	4	—
Drill	4	80
Physical Training or *Music*	4	83
WINTER TERM:		
Chemistry II	5	51
Laboratory	2	54
Entomology	5	68
Laboratory	2	68
German	5	70
Public Speaking I	2½	95
Projection Drawing	2	63
Drill	4	80
Physical Training or *Music*	4	83
SPRING TERM:		
Chemistry III	2	51
Laboratory	8	54
Physiology	5	96
Laboratory	2	96
Public Speaking II	2½	95
German	5	70
Drill	4	80
Physical Training or *Music*	4	83

Third Year.

FALL TERM:		
European History	5	70
Horticulture	5	72
Rhetoric II	5	67
German	2½	70
Linear Perspective	4	63
Industrial	2	—
WINTER TERM:		
Civics	5	70
Bacteriology	2½	96
Laboratory	4	96
Physics III	5	88
Laboratory	4	88
German	2½	70
SPRING TERM:		
American History	5	70
Zoölogy	5	68
Laboratory	4	68
Physics IV	5	88
Laboratory	2	87
German	2½	70

Fourth Year.

FALL TERM:		
Logic	5	85
Geology	5	69
Economics	5	71
Elective	5	30
WINTER TERM:		
English Literature I	5	67
Plant Morphology	5	48
Laboratory	4	48
Elective	5	30
Industrial	4	—
SPRING TERM:		
English Literature II	5	67
Psychology	5	85
Elective	5	30
Thesis	5	—

Mechanical Engineering Course.

This course offers four years' training in mechanical engineering subjects, and its object is to fit young men for responsible positions in that profession. It prepares for the successful management of machinery and manufacturing establishments, the designing, building and erection of machinery, superintendence of construction, etc. The course includes instruction by text-book, lecture, laboratory, and workshop practice, and is especially based on mathematics, pure and applied mechanics, physics, chemistry, machine design, structural design, and steam engineering.

The course of study has been laid out with the aim of securing a judicious mixture of theory and practice, such as will not only give the student the technical skill required for engineering operations, but also a broad grasp of the fundamental principles of his profession. The advantages of combining a practical application of principles with theoretical instruction at the time these principles are being impressed by classroom work is well known. The shop work, being purely educational in its character, is so arranged that each student can make as rapid advancement as possible. Instruction is given by skilled workmen, and the work carried on is of a practical character, being, in fact, the building of lathes, engines, drills and machinery for the market and the department. In all shop practice the students work from blue-prints, thus learning to read drawings readily and supplementing the work of the drawing department.

Based upon the fundamental principle that laboratory and shop work, combined with technical training, constitute one of the most important features of engineering education, the course on the opposite page is offered.

MACHINE-SHOP.

Mechanical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description my be found.

First Year.

FALL TERM:

Geometry I	5	74
English Classics	5	66
Botany II	5	48
Field-work	2	48
Free-hand Drawing	2	63
Woodwork I	4	75
Drill	4	80

WINTER TERM:

Geometry II	5	74
Advanced Composition	5	67
Agriculture	5	45
Elementary Psychology	1	85
Woodwork II	3	75
Object and Geometrical Drawing	4	63
Drill	4	80

SPRING TERM:

Algebra IV	5	74
Rhetoric I	5	67
Physics	5	88
Laboratory	2	88
Blacksmithing I	4	75
Elementary Projection	2	63
Drill	4	80

Second Year.

FALL TERM:

Chemistry I	5	51
Laboratory	2	52
Trigonometry	5	74
Surveying	2	74
Shop Lectures I	1	75
German	5	70
Projection Drawing	2	63
Blacksmithing II	2	75
Drill	4	80

WINTER TERM:

Chemistry IV	2½	52
Laboratory	4	54
Kinematics	5	75
German	5	70
Descriptive Geometry	4	63
Public Speaking I	2½	95
Foundry	2	75
Drill	4	80

SPRING TERM:

Chemistry V	2½	52
Laboratory	4	54
German	5	70
Analytical Geometry	5	74
Public Speaking II	2½	95
Shop Lectures II	1	75
Mechanical Drawing I	2	75
Pattern-making	2	75
Drill	4	80

Third Year.

FALL TERM:

Differential Calculus	5	74
Physics I	5	88
Laboratory	4	89
Mechanics	2½	75
Shop Lectures III	1	77
Mechanical Drawing II	4	77
Machine-shop I	4	77

WINTER TERM:

Integral Calculus	5	74
Physics II	5	88
Laboratory	4	88
European History	5	70
Mechanical Drawing III	4	77
Machine-shop II	2	77

SPRING TERM:

Definite Integrals	2½	74
Valve Gears	2½	77
Civics	5	70
Rhetoric II	5	67
Shop Lectures IV	1	77
Mechanical Drawing IV	4	77
Machine-shop III	4	77

Fourth Year.

FALL TERM:

American History	5	70
Economics	5	71
Steam-boilers	2½	77
Graphic Statics	2½	77
Shop Lectures V	1	77
Engineering Laboratory I,	2	77
Mechanical Drawing V	4	77
Machine-shop IV	2	77

WINTER TERM:

English Literature	5	67
Thermodynamics I	5	77
Applied Mechanics I	5	78
Shop Lectures VI	1	78
Engin'ring Laboratory II,	4	78
Mechanical Drawing VI	2	78
Machine-shop V	2	78

SPRING TERM:

Applied Mechanics II	5	79
Thermodynamics II	2½	79
Hydraulics	2½	79
Thesis	5	—
Mechanical Drawing VII,	4	79
Engin'ing Laboratory III,	2	79

Electrical Engineering Course.

This course is arranged to supply the demand for men who have a practical knowledge of electricity, as well as a thorough knowledge of the principles and laws governing the forces and phenomena with which they have to deal. The applications of electricity are broadening out so rapidly by discovery and invention and by increased commercial applications, that new facts are to be met with almost daily. To meet these demands, the student should be well grounded in all the branches underlying his profession. This course is therefore made strong in mathematical and physical sciences. A well-equipped electrical engineer should also be a mechanical engineer, and must have some training in the principles of steam and hydraulic engineering as well as heat, plumbing, etc. Drawing, machine design, and mechanics of machinery, together with shop practice, occupy a considerable portion of the time of the student. Some general-culture studies are offered in history and economics, public speaking, and English. It is believed that this course will give a broad general training, with sufficient technical knowledge to meet the needs of a practical engineer. For the first two years this course is identical with the mechanical engineering course.

PHYSICS CLASSROOM.

Electrical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	74
English Classics	5	66
Botany II	5	48
Field-work	2	48
Free-hand Drawing	2	63
Woodwork I	4	75
Drill	4	80

WINTER TERM:

Geometry II	5	74
Advanced Composition	5	67
Agriculture	5	45
Elementary Psychology	1	85
Woodwork II	3	75
Object and Geometrical Drawing	4	63
Drill	4	80

SPRING TERM:

Algebra IV	5	74
Rhetoric I	5	67
Physics	5	88
Laboratory	2	88
Blacksmithing I	4	75
Elementary Projection	2	63
Drill	4	80

Second Year.

FALL TERM:

Chemistry I	5	51
Laboratory	2	52
Trigonometry	5	74
Surveying	2	74
Shop Lectures I	1	75
German	5	70
Projection Drawing	2	63
Blacksmithing II	2	75
Drill	4	80

WINTER TERM:

Chemistry IV	2½	52
Laboratory	4	54
Kinematics	5	75
German	5	70
Descriptive Geometry	4	63
Public Speaking I	2½	95
Foundry	2	75
Drill	4	80

SPRING TERM:

Chemistry V	2½	52
Laboratory	4	54
German	5	70
Analytical Geometry	5	74
Public Speaking II	2½	95
Shop Lectures II	1	75
Mechanical Drawing I	2	75
Pattern-making	2	75
Drill	4	80

Third Year.

FALL TERM:

Differential Calculus	5	74
Physics I	5	88
Laboratory	4	88
Mechanics	2½	75
Shop Lectures III	1	77
Machine-shop I	4	77
Mechanical Drawing II	4	77

WINTER TERM:

Integral Calculus	5	74
Physics II	5	88
Laboratory	4	88
European History	5	70
Mechanical Drawing III	4	77
Machine-shop II	2	77

SPRING TERM:

Differential Equations	2½	74
Electricity	5	89
Laboratory	6	89
Civics	5	70
Rhetoric II	5	67

Fourth Year.

FALL TERM:

American History	5	70
Economics	5	71
Direct-current Machines	5	89
Laboratory	4	89
Mechanical Drawing IV	4	77
Electrochemistry	2	90

WINTER TERM:

Direct-current Machines	5	89
Laboratory	4	89
English Literature	5	67
Applied Mechanics I	5	78
Engineering Laboratory I	4	77
Machine shop III	2	77

SPRING TERM:

Alternating-current Machines	5	89
Laboratory	4	90
Hydraulics	2½	79
Power Stations	2½	90
Dynamo Design	4	90
Thesis	5	—

AGRICULTURAL HALL.

JUDGING DAIRY COWS.

Outline of Instruction.

Agriculture.

Agriculture, in its restricted sense, includes four general lines of study: Soils, crops, farm mechanics, and farm management. In the published course of study, farm mechanics and farm management are given one-half term each. The more advanced work in soils and farm mechanics are included in soil physics No. 5, elective, and in farm mechanics II, elective. The course requires a full term's work in crop production and grain judging, while, for those who wish to specialize in this line, advanced work in this subject is offered as an elective in the fourth year. Agriculture No. 1 takes up the elementary study of soils and crop production and serves as an introduction to the several branches of agriculture, animal husbandry, and dairying.

It is proposed to make the agricultural studies thoroughly practical. Agriculture is a business. It is not truly a science, but it depends upon science, and to understand the "principles of agriculture" requires a knowledge of many sciences. Physics, botany, chemistry, geology and mathematics teach theory and science, and the studies in agriculture will assist the student to make the application and put the theory and science into practice on the farm.

1. **Agriculture.** First year, winter term. An elementary study of the soil—its formation, texture, plant-food, moisture, tillage, and fertility; the plant—its relation to the soil and climate, its propagation, growth, and cultivation; the kinds of crops and their culture; the animal—its life, feeding, breeding, and management. Text-book, Bailey's Principles of Agriculture.

2. **Crop Production.** Third year, winter term. A study of farm crops as to the preparation of the seed-bed, planting, cultivating, harvesting, root systems, maintenance of soil fertility, rotation of crops, manures and fertilizers, noxious weeds, injurious insects and diseases, and their remedies. Each of the staple crops will be taken up in order, its history, characteristics, methods of culture, uses, etc., noted. Seed selection and the storing, feeding and marketing of crops will also receive attention. Crops will be studied in classes as to their special purposes or uses, as hay, forage, silage, pasture, soiling, green manure, and cover-crops. New crops will be investigated. All the different crops are grown on the farm, so that the students may see them, or at least see samples in the classroom, and thus become familiar with their characters and methods of culture and handling. Lectures and text-book.

Grain Judging is supplementary to the classroom work in crop production. This will consist mainly of work in the judging-room, in the scoring of corn and common cereals according to inspectors' and buyers' standards, or according to recognized standards of perfection. A special study will be made of corn in the selection of seed ears. It is surprising how few people can pick out a good ear of corn before they are carefully instructed and trained in the vital points, both as to desirable qualities and defects. It is just as important to select and grow a pure and perfect type of corn or wheat as it is to select a well-formed hog

or perfect type of dairy animal for breeding purposes. A higher per cent. of protein, greater productiveness, and other valuable qualities, which may be bred into corn by careful and intelligent selection, should greatly increase the value of this crop to the farmer.

3. **Farm Mechanics and Management.** Third year, spring term. Includes the study of the following subjects: Selection of a farm, as to location, soil, climate, etc.; relation of farming to other occupations; the farm equipment, different systems of farming; field and crop management; keeping farm accounts; necessity, method and kind of accounts. Practice work is required of each student, in which he shall carefully prepare records of the farm operations and business transactions for one year on his own farm or that of some successful farmer. Questions of farm economy are carefully studied, such as the care of farm buildings and works, management and care of stock, fencing, ditching, etc. Some study will be made of rural law relating to property, deeds and conveyances; water rights, highways, legal fences, contracts, liabilities of employer and employee; notes, mortgages, bills of sale, etc. Farm management is meant not only to train men so that they may successfully apply business methods in carrying on their own farms, but to equip them for the superintending and management of large farms. This College, as well as other agricultural colleges, has many demands for men "who are properly trained in the management of large agricultural interests," and it is the aim of this course to develop men for this work. Text-book, Robert's Farmers' Business Handbook.

BARNS.

ELECTIVES.

4. **Soil Physics.** Fourth year, fall term. A study of soil formation and mechanical composition, including a special study of the physical problems of the soil as regards texture, tillage, movements of soil water, soil-moisture conservation, aeration of the soil, draining and warming the soil. A study of the implements of tillage as to their purpose and use.

Laboratory.—Will consist largely of the demonstration and application of the principles of soil physics taught in the classroom, both by work in the laboratory and in the field. The students will be given practice work in determining soil moisture, in cultivation methods, and in mechanical analysis of soils. Textbook, King's Physics of Agriculture.

5. **Farm Mechanics II.** Fourth year, winter term. This will be a continuation of the work begun in the third year. The special subject will be farm machinery, its invention, history, and development; a study of the principles of construction and operation, with comparison of the different makes of machines of the several kinds and classes, according to their adaptation for special conditions and uses. As time permits, the work in other lines of farm mechanics will be continued, especially as related to the construction, ventilation and drainage of farm buildings, and the making and maintaining of roads. The work in the laboratory will consist largely of the demonstration and application of the principles taught in the classroom, including tests of the strength of timbers of different kinds and dimensions, the use of the dynamometer in testing the draft of wagons, etc., and the illustration of draft principles as related to the size and weight of the horse and arrangement of the harness, hitch, etc. Each student will be given some work in the taking down and putting up of farm machines, in order that he may learn their parts and construction.

6. **Crop Production II.** Fourth year, spring term. This course includes a study of the following: Standard crops, as to their origin, development, and special adaptation to soil, climate, etc.; investigations of new crops; the harvesting, thrashing, storing and marketing of crops; the products manufactured from each, and their uses; plant improvement by selection, cross-fertilization, and by special culture and fertilization of the soil; practical methods of plant-breeding which may be undertaken by the farmer; plans for breeding fields; methods of taking and preserving breeding records; storage, maturity, and other factors, as affecting germination and vitality of seeds, etc.

A study will also be made of the organization, lines of work and the more important results of experiments by the state experiment stations and by the United States Department of Agriculture. The important principles of experimental work will be studied, and each student will be required to plan and conduct, under the direction of the instructor, some experiment along agricultural lines, and to prepare a written discussion of the subject, giving the results of the experiment. The experiment may include any line of work in charge of the agronomy department, such as studies in germination and purity of seeds, market conditions of grain, culture methods for different crops, effects of various methods of cultivation on temperature and moisture of the soil, etc. This course gives an opportunity for the student to begin some kind of original investigation which he may continue as a graduate student and allows him a choice of many lines of field-work which could not be commenced during the early part of the academic year.

Botany.

The instruction in the botanical department is along three lines:

First, as a Pure Science.—The department aims to give the student the training in observation and scientific reasoning, and also the information which he should have as a matter of general knowledge, regardless of his subsequent vocation. Botany is the first natural science to which the student is introduced in his College course, and for this reason it is necessary that he receive in this department his elementary training in scientific methods.

Second, as a Science Underlying Agriculture.—It is well recognized that botany is one of the most important of the sciences upon which the practice of agriculture is based, for the reason that botany deals with plant life, and plant life is at the basis of agriculture. Whenever practicable, illustrations and examples in both the elementary and advanced work are chosen with particular reference to their bearing upon agriculture.

Third, Technical Botany, including such subjects as are of direct application in agriculture. The training in the special botanical studies of the agriculture course is chiefly of this nature, as will be seen by consulting the outline below.

Of the studies described below, No. 1 is required in all courses, and No. 2 in the general science course.

1. **Elementary Botany II.** First year, fall term. This course covers the elements of morphology, physiology, and ecology. All of the great groups of plants are taken up and discussed in the order of their evolutionary development. Especial attention is given to the changes in structure which appear in response to changes in environment. Emphasis is laid upon the plasticity and adaptiveness of the plant organism. By grasping this fundamental conception at the outset, the facts of plant life, particularly studied in horticulture and agriculture, become more comprehensible and significant. A general study of the classification of the plant kingdom, sufficient to enable the student to understand the broad outlines, and the relationships of the great alliances, is secured in this course, and, by coming into close contact with plants as living organisms in their natural habitats, he becomes acquainted with the factors that regulate their life and activity. Coulter's Plant Studies is the text used.

Field-work.—Certain definite problems in plant ecology are assigned to different groups of students, and a report of observations made, together with drawings of twenty-five representative plants in the localities studied, is required. The materials called for are: A drawing tablet, a key to the local flora, published by the department, and a simple lens.

2. **Plant Morphology.** Fourth year, winter term. In this course the forms and structural relations of representatives of all the great groups of plants are studied in detail in the laboratory. The purpose is to give the student a comparative insight into the morphological characters of the more important groups of the plant kingdom, and a conception of their genetic relationships and their development and position in the evolutionary series. Coulter's Plant Structures is the text followed, supplemented by lectures.

Laboratory.—Laboratory work occupies four hours per week throughout the term. Accuracy of observation is tested by exact studies of representatives of all the great groups of plants, both with the unaided eye and by means of the microscope. Detail drawings, according to furnished outlines, are required.

Drawing materials are provided by the student. All necessary reagents and instruments are supplied by the department.

ELECTIVES.

3. **Plant-breeding.** Fourth year, spring term. This course is devoted to the study of the evolution and breeding of plants. The laws of heredity and variation are studied in detail, with especial reference to their application to the improvement of economic plants, and a critical study is made of the principles underlying seed and plant selection and hybridization. The history of the evolution and development of economic plants is taken up in considerable detail, and a critical examination is made of the methods followed and results obtained by investigators in plant-breeding here and abroad. The extended series of experiments now being conducted by the Experiment Station will be used for illustrative purposes. The course is given by lectures, supplemented by laboratory work, and a seminar in plant-breeding, held once a week

Laboratory.—Laboratory work will involve experiments in seed and plant selection, hybridization, the statistical study of variation, etc.

4. **Plant Diseases.** Fourth year, fall term. The term is devoted to the study of causes of diseases in economic plants. The study is familiarized by the lectures with the great groups of the parasitic fungi and their chief subsidiary groups. The general morphology of these is discussed successively, and the morphology and physiology of the particular representative of each selected for laboratory study is given in detail, together with combative and preventive measures. A rich herbarium of types and a constantly growing set of duplicates furnish abundant material for the work, and are supplemented by alcoholic specimens properly killed and fixed, and by prepared slides. Ample literature on the subject of plant diseases is afforded by the library of the department and of the Experiment Station. H. Marshall Ward's Diseases in Plants is used as a text. Prerequisites are courses 1 and 2, or their equivalents.

Laboratory.—In the laboratory work pathological specimens are examined, and the changes induced in plants by fungi and by abnormal physical conditions are studied in detail under the microscope. The object of this course is rather to study the workings of disease from the standpoint of the host than to become acquainted with the groups of parasitic fungi, although a sufficient study of the morphology of these for practical purposes is made in the laboratory.

GRADUATE COURSES.

5. **General Morphology of Thallophytes.** Winter term. Lectures and laboratory work. This course involves a detailed study of the morphological characters of the algæ, fungi, and lichens.

6. **General Morphology of Bryophytes and Pteridophytes.** Spring term. Lectures and laboratory work. The work begun in course 4 is here continued in the higher groups of liverworts, mosses, and ferns. Especial attention is given to evolutionary lines of development in these groups.

7. **General Morphology of Spermatophytes.** Spring term. Lectures and laboratory work. The work of this course will be given in alternate years with course 5, and covers the morphology of the gymnosperms, monocotyledons, and dicotyledons, representatives of each of the chief groups of these great alliances being studied in considerable detail.

8. **Morphology and Physiology of Economic Grasses.** Spring term. Lectures and laboratory work. This course contemplates a detailed study of the

cereals and other economic grasses; their history, distribution, structure, and habits.

9. **Ecology.** Fall term. This course involves the study of the reactions of plants to their environment in their associative relations as plant societies. Problems of ecological and geographical distribution will be considered, and as far as possible the work will be made individual, each student being directed into some special ecological question as early as possible. Lectures and conferences will furnish general guidance, and special reading will be assigned. The work proper will be strictly in the field.

10. **Plant Histology.** Spring term. This is a course in laboratory methods, involving a study of the processes of killing, fixing and preserving plant tissue; dehydrating, embedding in paraffin and celloidin; microtome sectioning; staining and mounting of slides. A varied series of preparations will be worked upon, with a view to the acquisition of facility in technique and in the preparation of material for research.

MEANS OF ILLUSTRATION.

A general herbarium, consisting of a large collection of plants of the United States and other countries; a Kansas herbarium, containing specimens illustrating the distribution and variation of plants throughout the state; a twig herbarium, illustrating woody plants in their winter condition; and a seed herbarium, containing a representative collection of seeds and fruits, amounting, all together, to about 70,000 specimens; also thirty-eight compound microscopes, seven dissecting microscopes, tools, reagents, etc. The department is provided with a zinc culture room, and the ordinary apparatus for bacteriology, and with Minot and Schanze microtomes, paraffin embedding ovens, and a complete equipment of glassware and stains for histological and cytological work.

PHYSICAL SCIENCE HALL.

Chemistry.

All of the industries are becoming more and more dependent for their highest success upon intelligent application of the sciences, and the special sciences are making their greatest progress by tracing their phenomena back to the physical and chemical changes that accompany them. A study of chemistry and physics is therefore essential to any understanding of the processes of nature or human industry. In the instruction in chemistry the aim is to insist upon a mastery of the chief concepts of the pure science through the agency of text-book drill, accompanied by demonstrations in the lecture-room, and experimental observations by the student himself in the laboratory. As the course proceeds, illustrations of chemical principles are drawn from the industrial processes of the chemical, agricultural, domestic and other arts, thus impressing the practical nature of the study. The ultimate object of the instruction is to develop in the student the power to form independent judgments upon the manifold problems of daily life in which chemistry plays a part.

Of the studies described below, Nos. 1 and 9 are required in all courses. In addition, the engineering courses require Nos. 4, 5, 12, and 13, and the agriculture, domestic science and general science courses Nos. 2, 3, 10, and 11. The domestic science course also requires No. 6, and the agriculture course Nos. 7, 8, and 14.

1. **Chemistry I.** Second year, fall term. This term's work is designed to give the student a knowledge of the fundamental principles of the science as illustrated by the chemistry of the non-metals and that of some of the metals. As all subsequent progress in this science requires a working knowledge of its principal theoretical conceptions and of the rules for naming compounds, the significance of formulæ, chemical equations, etc., much attention is given to these as well as to the practical uses of the substances and processes in metallurgy, engineering, agriculture, and other arts. The text-book is supplemented by lectures when necessary, and the subject is amply illustrated by experimental demonstrations. Elementary physics is a prerequisite.

2. **Chemistry II.** Second year, winter term. A systematic study is made of the simpler examples of the more important classes of organic compounds in their logical chemical relations. Such substances as touch the every-day affairs of life are treated with greater detail. Opportunity is thus afforded to consider the hydrocarbons, alcohols, organic acids, fats, soap, sugars, starch, proteids, and other less well-known substances. Compounds used for clothing, food, fuel, light, antiseptics, disinfectants, anæsthetics, poisons, medicines, solvents, etc., are included. While the useful organic compounds have special attention given them, the study of others is not excluded when they contribute to an understanding of the systematic relations existing among the several classes. Any serious study of the biological sciences, or of the arts connected with them, must require this as a foundation. The subject is amply illustrated by experiments in the lecture-room. Course 1 is a prerequisite.

3. **Chemistry III.** Second year, spring term. In this and the accompanying laboratory work, the prime object is to increase the student's knowledge of chemistry as a whole. The science is so difficult that with most students the one term of inorganic chemistry does not do more than introduce them to it. In chemistry III the standard methods of analytical chemistry are made the basis of a systematic study of the chemical properties of the most important metals, non-metals, acids, bases, and salts. The teaching of analysis as such is a second-

ary object, although the student is held to the exact observations and careful reasoning required in ascertaining the composition of single substances and mixtures. The lessons include a review of the more important topics of inorganic chemistry, in which natural occurrence of elements and compounds, industrial chemical processes and analytical reactions are seen to be closely connected. The exercises are so arranged as to pass from the simple to the more difficult, and at the same time facilitate the comparative study of the several cations and anions. The theories of chemistry receive constant application, and the effect of the course is to broaden, strengthen and unify the student's ideas of general chemistry, greatly to enlarge his knowledge of chemical facts, and at the same time fix many of them by their association with the reactions made use of in analytical chemistry. Must be preceded by courses 1, 9, and 10.

4. **Chemistry IV.** Second year, winter term. In this course engineering students give special attention to the metals used in construction and other engineering operations, and to compounds of metals of engineering significance. Must be preceded by course 1.

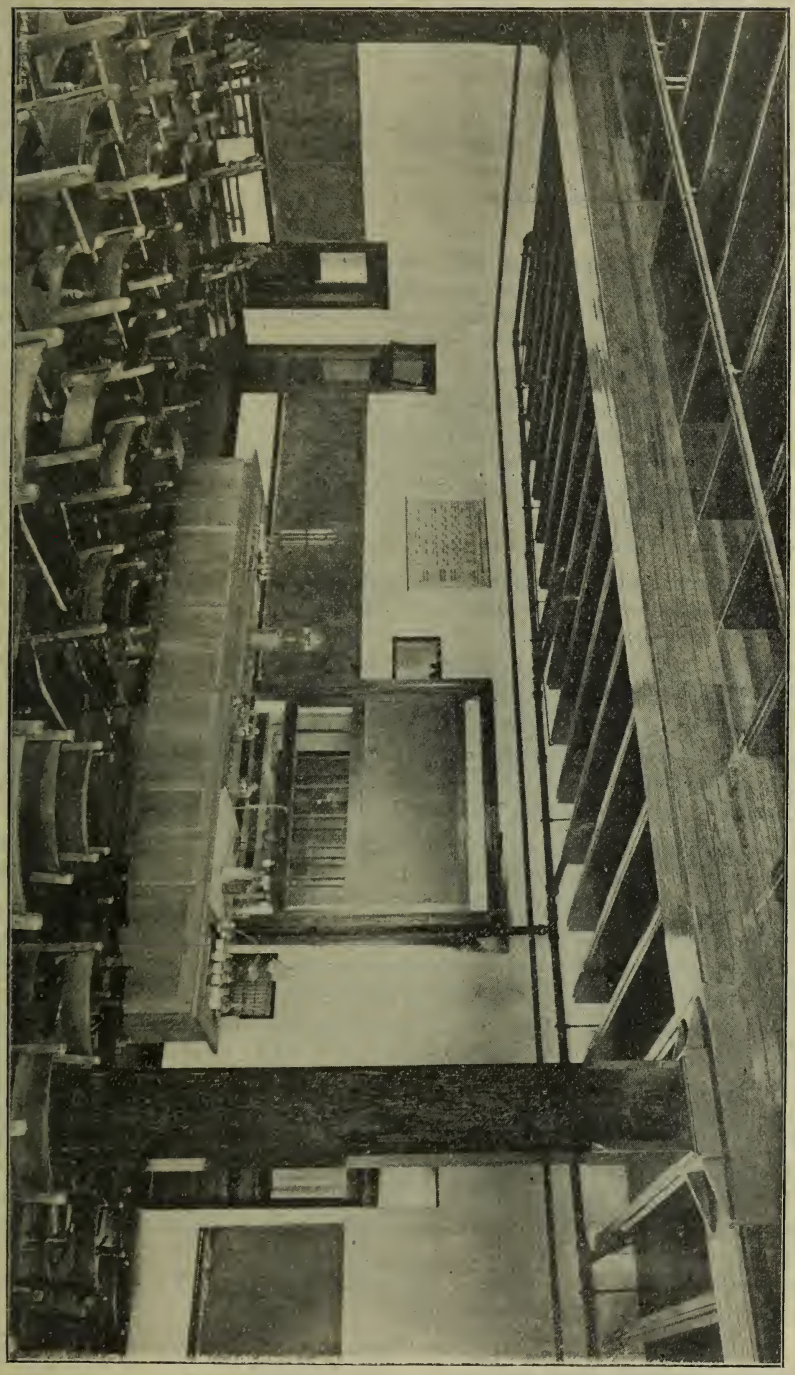
5. **Chemistry V.** Second year, spring term. The work given in this course is similar to that of chemistry III, but adapted, as far as may be, to the needs of engineering students. Must be preceded by courses 4 and 12, and accompany 13.

6. **Human Nutrition.** Third year, fall term. This is a course in the chemistry of foods and nutrition, and includes the following topics, with others: Composition of the animal body; composition of foods and methods of investigation employed in their study; the changes that the several classes of foods undergo in cooking and digestion, and the functions that they perform in nutrition; daily food requirements, and the balancing of dietaries; food economy. Course 2 and physiology must precede this course.

7. **Animal Nutrition.** Third year, fall term. This course is designed to provide a thorough scientific basis for the study of practical stock-feeding. It is a study of the relation of the animal body to matter and energy, and includes consideration of the methods of investigation employed, and of the following topics, with others: The chemical characteristics of the more important feeding stuffs and causes of their variation in composition; the chemical changes that feeds undergo in digestion; the tissues that can be built up by the several proximate principles of feeds, and the bodily functions that they can sustain; hence, the requirements of the animal as modified by the purpose for which it is fed; the channels through which the energy of feed is lost or is utilized. Course 2 and physiology must precede this.

8. **Agricultural Chemistry.** Third year, spring term. Among the subjects treated are: The soil-making rocks and minerals, and the agencies by which soils are formed from them and other materials; the soil requirements of different crops; the sources of soil fertility, and means of conserving it; the general relations of plants to earth, air, and water. Text-book, Snyder's Soils and Fertilizers. This is supplemented by lectures. Courses 3 and 4 must precede this.

9. **Chemical Laboratory I.** Second year, fall term. This course accompanies chemistry I. As far as time permits, the student performs, independently, experiments touching the preparation and properties of the more important inorganic substances. Preference is given to those operations which illustrate important principles, and the student is required as far as possible to study experiments in that light. In this, as in all other laboratory work in chemistry, the objects are, to illustrate chemical phenomena, and to teach care in manipu-



CHEMICAL CLASS ROOM.

lation, attentive observation, logical deduction, and discrimination and accuracy in recording results and conclusions. The student is not only required to give the designated amount of time, but at least a certain minimum of work must be satisfactorily performed in order to obtain credit.

10. **Chemical Laboratory II.** Second year, winter term. This includes blowpipe analysis of the more prominent species of minerals, especially those of common occurrence and economic importance in agriculture and engineering. Later in the term a beginning is made in the laboratory study of solutions of salts. Must be preceded by 9.

11. **Chemical Laboratory III.** Second year, spring term. This accompanies chemistry III. The regular methods of qualitative analysis serve as a basis for a laboratory study of the chemical properties of substances. At first simple known salts are given the student; later, unknown substances, simple and complex, soluble and insoluble. Course 10 is a prerequisite.

12 and 13. **Chemical Laboratory IV and V.** Second year, winter and spring terms. These courses for engineering students are similar to chemical laboratory II and III in general scope, but work in analysis of flue gases and determination of the calorific value of fuels will be included also. The exercises throughout will be adapted to the special needs of the students for whom they are designed. Course 9 must precede these.

14. **Agricultural Chemical Laboratory.** Third year, winter term. Six hours per week are given to laboratory work, which consists of simple quantitative exercises upon substances of direct agricultural interest. These are so planned as to give as great a variety of training as possible in the limited time available. Prerequisite, course 11.

MORE ADVANCED COURSES.

Advanced work in chemistry is offered in graduate courses and as electives in the general science course. Classes requiring lectures and recitations will not be organized for less than three students.

15. **Inorganic Chemistry.** Fall and winter terms. This course is a thorough study of one of the larger text-books, such as Richter's or Newth's, accompanied by a special course of laboratory work.

16. **Organic Chemistry.** Spring term. This course includes laboratory work, and the study of a text-book adapted to the advancement of the students. When sufficient demand exists it will be extended to two terms.

17. **Chemistry of Foods.** This course is designed for graduate students taking domestic science, and extends through a year. It consists of study of the literature treating of food and nutrition from a chemical standpoint, accompanied by laboratory work in the separation and study of the constituents of foods, drinks, and condiments. This course may be extended to almost any extent, and leads naturally to the quantitative analysis of foods.

18. **Quantitative Analysis.** This may be taken at any time after completing course 3. After the necessary preliminary training, the student may give special attention to any line of quantitative analysis, such as that of foods and fodders, soils and fertilizers, ores, water, gases, etc. The investigation of special chemical questions is encouraged.

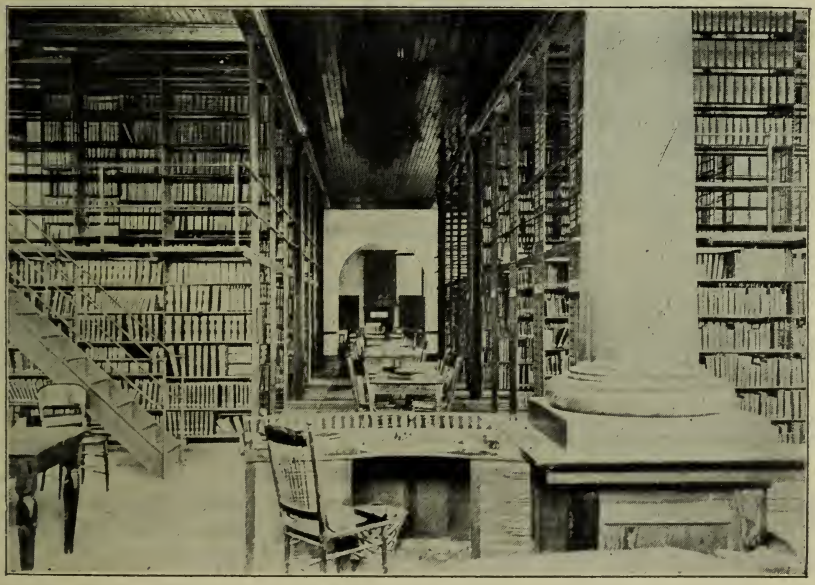
19. **Historical and Theoretical Chemistry.** This course may be arranged for by students who have completed courses 15 and 16.

20. **Mineralogy.** Crystallography, the study of minerals and blowpipe analysis may be taken concurrently or separately.

21. **Journal Meeting.** Once a week throughout the year, the officers of the department, with the more advanced students and such others as wish to, meet for papers and discussions upon topics representing the progress of chemical science, chiefly as found in the current journals. The preparation of subjects for presentation at these meetings is a part of the required work of graduate students.

MEANS OF ILLUSTRATION.

The lecture-rooms are provided with excellent facilities for demonstrations, and the laboratories have the necessary items of equipment, to which additions are constantly being made. The laboratories for the first year's work in chemistry will accommodate 138 students at one time, and the desks are so constructed that they may be used by an equal number working at another time. The laboratory for more advanced work provides places for forty-eight students. All of the laboratories are well supplied with draft hoods. Each student's place is provided with gas and water, and distilled water is piped to all of the laboratories. The collections include representative specimens of the most important ores and minerals, a set of natural crystals, a set of large crystal models, a collection of the minerals of the noted Stassfurth deposit, and chemical preparations illustrating subjects taught.



BOOK-STACKS.

Dairy and Animal Husbandry.

In the dairy department instruction is given in the manufacture of dairy products, and everything connected with the management of a commercial creamery, cheese factory, sanitary milk plant, etc., in such a manner that the student can intelligently handle any problem that is likely to confront him in his work afterwards.

The instruction in animal husbandry is planned with a view of awakening and encouraging an intelligent interest in live stock, so that a student, when he sees an animal, will at once compare it with an ideal that he carries in his mind and note wherein it falls short.

The values of the different feeds and combinations of feeds are taught, so that the student will be able not only to combine feed stuffs to get the required nutrients, but to combine them in the most economical manner to produce desired quantity and quality of product.

The principles of breeding as related to the raising of farm animals are studied, so to enable the student to know how our improved breeds of live stock have been developed, and how animals of superior merit may not only be perpetuated but improved. This work includes practice in tracing out pedigrees.

The aim is to give the student such knowledge and skill as will enable him to return to the farm and select, feed and breed the best live stock it is possible for him to obtain, or if he has no farm of his own, opportunities are open for young men, after getting some experience, to work into positions as farm managers. Nos. 1, 2, 3 and 4 are required in the agriculture course.

1. **Dairying.** Second year, fall term. Milk—its secretion, nature, and composition; testing milk, cream, skim-milk, buttermilk, and whey; conditions influencing the quantity and quality of milk; handling of milk for butter and cheese; study of the various hand separators; the proper handling of cream and elementary butter-making.

Laboratory.—Practice in testing milk and its various products; detection of adulteration; tests for distinguishing oleomargarine and butter; testing accuracy of glassware; study of the various hand and power Babcock testers and cream separators. Practice in separating milk, pasteurizing, ripening and churning cream; different methods of testing the acidity of milk; rennet test; setting milk; curd cutting; salting, pressing and curing of cheese.

2. **Breeds of Stock.** Second year, winter term. A study of the characteristics of the various market and pure-bred classes of live stock; also the standard of excellence of the various breeds.

Stock Judging.—Practice in judging chickens, beef cattle, dairy cattle, hogs, horses and sheep according to the official standards.

3. **Stock-feeding.** Third year, spring term. Properties of feed stuffs; adaptation and combination of feeds to meet the needs of various classes of stock under varying conditions; practical economy in preparing rations for growth, milk, fattening, and maintenance; effects of feed on quality of product.

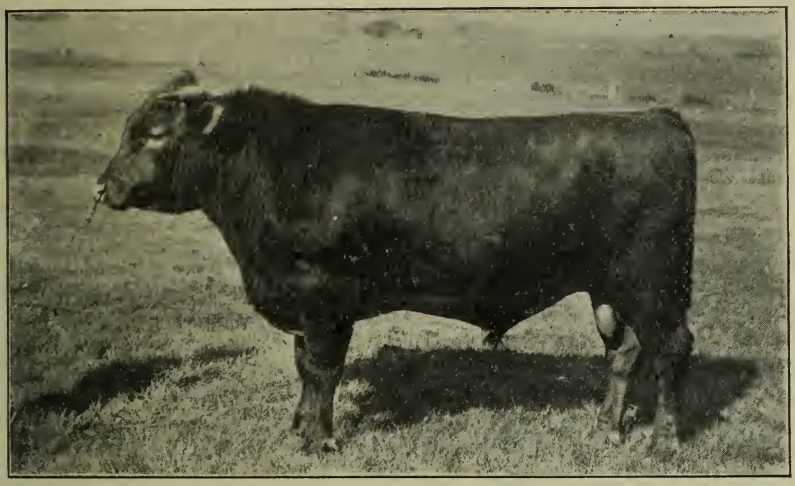
4. **Animal Breeding.** Fourth year, spring term. A study of the laws of heredity, atavism, variation and principles relating to fecundity, cross-breeding, in-and-in breeding, etc. In addition, the various principles relating to the promotion of the breeding of pure-bred stock are made the subject of study and investigation.

ELECTIVES IN DAIRYING.

5. *Preparation and Marketing of Milk* embraces pasteurization, clarification, standardization; the general care, handling and marketing of milk; arrangements and appliances necessary to furnish to the consumer milk that has been prepared under the greatest sanitary conditions.

6. *Special Dairy Products* is a study of the various ways in which milk and its products are utilized in special purposes, such as the manufacture of ice-cream, condensed and modified milk, and the preparation of milk-sugar and casein, which are used as a basis of many of the commercial products.

6. *Advanced Butter-making* includes the receiving and separation of milk, turning of hand separators, cream preparation, perpetuating of starters, pasteurization and ripening of cream, and the determination and effect of the different per cents. of acidity in cream; churning, working, packing, marketing and scoring of butter.



SHORT-HORN BULL.

8. *Dairy Management and Bookkeeping* embraces the construction of dairy building, the state of refrigeration and conditions to obtain the greatest possible degree of economy in dairy operation; practice in bookkeeping that will enable the student to understand the underlying principles, followed by a training in the keeping of dairy accounts.

9. *Cheese-making* consists in the manufacture of cheddar, cottage and cream cheese.

ELECTIVES IN ANIMAL HUSBANDRY.

10. *Origin of Breeds* is the study of the origin and development of all the various breeds and classes of domestic animals.

11. *Advanced Live-stock Judging* covers judging of horses, cattle, sheep, poultry, in groups similar to those at county and state fairs.

12. *Live-stock Management* includes the housing, care, management and marketing of the various classes of live stock.

13. *Animal Products* is the study of the methods of slaughtering animals, the cutting and curing of meats, and the utilization of animal waste products.

14. *The Study of the Pedigree* embraces the writing, recording and tracing of pedigrees of all breeds, and studying the rules and requirements of the various record associations.

15. *Advanced Feeding* is a review of all the recent experiments, a study of the introduction of new cereals and by-products for feeding purposes and of foreign methods of feeding.

THE MEANS OF ILLUSTRATION.

The College herds have been selected with great care, and among them are found representatives of most of the leading breeds and classes of domestic animals.

Ten breeds of cattle are represented in the College herd: Aberdeen-Angus, Galloways, Herefords and Shorthorns representing the beef breeds; Ayrshires, Guernseys, Jerseys and Holstein-Friesians representing the dairy breeds; Polled Durham and the Red Polled representing the dual-purpose breeds.

The College owns four pure-bred Percheron horses and several high grades, and, in addition, secures some of the best draft and driving horses in the state for judging purposes.

Five breeds of swine are represented—the Poland-China, Berkshire, Duroc-Jersey, Tamworth, and Yorkshire. Each breed is represented by a goodly number of fine animals.

A number of breeds of sheep will be added to the live-stock equipment during the coming year.

A few individuals of the leading breeds of poultry are owned by the College, and the fanciers of the state loan additional birds, if needed, for demonstration purposes.

The judging-room is 48x96 feet, is located in the large stone barn, in the north end of the College campus, and has a seating capacity of 350.

A handsome stone dairy building, valued at $15,000, and a new dairy barn, valued at $3000, conveniently arranged, are additional equipment of note to the dairy department. The new dairy will be equipped with the most modern and improved dairy apparatus, and, in addition to this regular equipment, manufacturers of separators, Babcock testers and other dairy supplies have loaned the College several thousand dollars' worth of machinery for instructive purposes.

Domestic Art.

This department provides a systematic course in plain sewing and dressmaking. The course of work in plain sewing is carefully graded, not only to insure a thorough knowledge of the subject, but to develop habits of order, accuracy, and self-reliance. Each pupil is required to keep a note-book in which she records a description of the work accomplished. A written examination is held at the close of each term.

Of the studies described below, all young women are required to take Nos. 1, 2, and 3, and those in the domestic science course must take No. 4. Materials for No. 1 are furnished by the College, the pupil furnishing her own thread,

thimbles, needles, etc. In Nos. 2, 3 and 4 the pupil furnishes her own materials and makes the garments.

1. **Sewing I.** First year, fall term. The pupil makes a book of models covering the full course in hand sewing, consisting of basting, hemming, overhanding, gathering, darning, patching, etc. Lectures are given upon the use of each model.

2. **Sewing II.** First year, winter term. Care and use of sewing-machine. Machine practice. Discussion of appropriate materials and trimming for undergarments. Drafting, cutting and making underskirt and drawers.

3. **Sewing III.** First year, spring term. Drafting, fitting and making dress without lining.

4. **Dressmaking and Fabrics.** Second year, winter term. Nos. 1, 2 and 3 are a prerequisite for this course. The use of a dress-cutting system is taught, and each pupil will be required to draft, cut and make a woolen dress. Discussion of appropriate and hygienic dress. In connection with the dressmaking, the student will be given thorough instruction in fabrics and their manufacture.

ANDERSON (MAIN) HALL.

Domestic Science.

The object of the course in domestic science is to fit young women as home-makers and as capable women in whatever sphere their life-work may be. Such then, as tends to cultivate correct observation, accurate reasoning, generous judgment and an appreciation for the beautiful in nature and art may rightfully find a place in such a course.

That which most especially pertains to woman's province, the home, is dependent upon the sciences of chemistry, physiology, bacteriology, and hygiene, and direct applications of the principles of these sciences are made in the lessons in cookery, dietetics, home nursing, and household management.

As the truly useful woman must be both cultured and refined, one-third of the time of this course is given to history, art, literature, and economics, and about one-third to the sciences.

Elementary cooking is required of all young women; the remaining courses are required of domestic science students, and may be elected by general science students.

1. **Elementary Cookery.** First year, winter term. The economic use of fuels; the proper management of stoves and ranges; the care of utensils; the cookery of vegetables, cereals, fruits, milk, eggs, and meat, together with a few lessons in bread baking and cake and pastry making, are taught.

2. **Laundering.** Third year, fall term. The scientific principles involved in laundering are taught, including the use of soaps, washing fluids, and starch, and the removal of stains.

3. **Home Nursing.** Third year, spring term. The course covers the furnishing and care of sick-room, the giving of baths, administration of medicines, record of symptoms, first aid to the injured, and the intelligent use of antiseptics and disinfectants. Bacteriology is a prerequisite. Weeks-Shaw Text-book of Nursing.

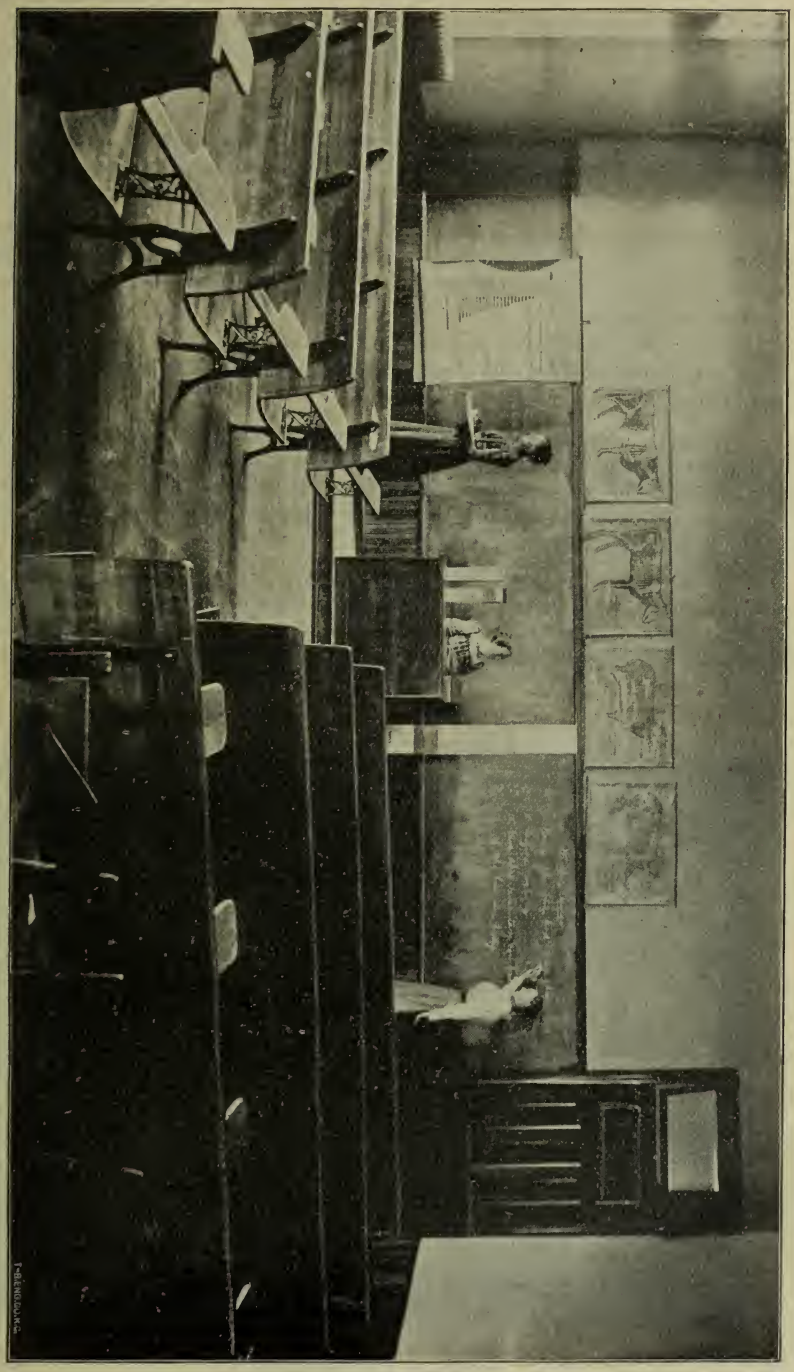
4. **Domestic Science I.** Third year, fall term. The first half-term is given to food preservation—cold storage, sterilization, drying, and use of various chemicals. During the last half-term the study of foods in general is taken up, special stress being laid on the carbohydrates. Text-book, Miss Hill's Practical Cooking and Serving.

Laboratory.—Practice in canning, pickling and preparation of fruit juices first half-term. Last half, work is given in the preparation of vegetables, cereals, and dishes in which starch or sugar largely predominates. Must be preceded by courses 1, 2 and 3 in chemistry, and preceded or accompanied by human nutrition.

5. **Domestic Science II.** Third year, winter term. This is a continuation of course 4, and the time is devoted to the sources, composition, properties and comparative cost of nitrogenous foods. Text-book, same as in course 4.

Laboratory.—Practice is given in the cookery of milk, cheese, eggs, meats, and legumes, separately and in combinations. Extended work is given with meats and breads. Practice in preparation and serving of dinners is given.

6. **Domestic Science III.** Third year, spring term. Fats and oils are studied and the economical purchase of food supplies discussed. Text-book, same as in course 4.



DOMESTIC SCIENCE CLASSROOM.

Laboratory.—Practice work is given in pastry- and salad-making, and in the preparation of frozen dishes. The making of menus, with purchase and preparation of materials for breakfasts, luncheons, and dinners, occupies considerable of the time.

7. **Household Management.** Fourth year, fall term. Sanitary construction and care of the house; sanitary, economical and artistic household furnishings; judicious expenditure of incomes; and the keeping of household accounts, are the topics treated. Lectures given and reference work required.

8. **Dietetics.** Fourth year, winter term. The balanced dietary, nutritive and dietetic values of various foods, and the agreeable and hygienic combinations are taught. Text-books: Hutchison's Foods and Dietetics; Hill's Practical Cooking and Serving.

Laboratory.—The more complicated dishes are prepared and course breakfasts, luncheons, dinners and teas are served. Excursions are made to the mills and markets.

9. **Therapeutic Cookery.** Fourth year, spring term. Abnormal conditions of digestion, assimilation, and metabolism; alterations of secretions and destruction of tissue due to germ diseases are studied, together with the diets adapted to the conditions and needs of the system. Special attention is given to the feeding of infants and small children.

Laboratory.—The practice work consists of the preparation of many and easily digested foods suitable for the sick, and the arrangement of trays for invalids. Some demonstration lectures are given by the class. Text-books: Hutchison's Food and Dietetics; Farmer's Food and Cooking for the Sick and Convalescent.

SAMPLES OF COOKING.

Drawing and Descriptive Geometry.

Drawing is the language of form and the key to every artistic and nearly every industrial pursuit. The educational and practical value of an extended and systematic course in its various branches can hardly be overestimated. The general aims of the several courses in industrial art are the same: (*a*) The cultivation of observation and analysis of form; (*b*) the development of correct taste; (*c*) the teaching of the different methods of graphic representation; (*d*) the acquirement of skill in handling drawing tools.

Of the studies described below, Nos. 1 to 4, inclusive, are required in all courses; Nos. 5 and 7, in the general science course; Nos. 5 and 6, in the engineering courses; and Nos. 8 and 9, in domestic science.

The College furnishes drawing-board, T square, triangles and water-colors for the graphic work done at the College; but all tools for home use, including drawing-board, T square, triangles, compasses, shading pen, and protractor, must be furnished by the student.

1. **Free-hand Drawing.** First year, fall term. Exercises with forms involving the right line and the arc, illustrating the effects of geometrical arrangement, repetition, alternation, symmetry, proportion, harmony, and contrast. After a few lessons in geometrical lines, the conventional surface ornament is taken up, and more subtle curvatures and complex forms are introduced. Text-book, Walters's Industrial Drawing, envelopes 2 and 7.

2. **Object Drawing.** First year, winter term. Discussion and drawing of geometrical models and simple objects. Exercises in shading from the object and from the imagination.

3. **Geometrical Drawing.** First year, winter term. Construction of perpendiculars, parallels, angles, polygons, tangents, etc. Construction of the ovoid, oval, ellipse, and spiral. Drawing, in India ink and water-colors, of various geometrical designs and architectural forms. Use of drawing-board and T square. Text-book, Walters's Industrial Drawing, envelopes 11 and 12.

4. **Elementary Projection.** First year, spring term. Principles of orthographic projection; the profile plane; the secant plane; rotation in space; change of ground line. Development of surfaces. Interpenetrations of the prism and pyramid. Projection of the circle, cylinder, and cone.

5. **Projection Drawing.** Second year, fall or winter term. Construction and projection of the conic sections. Construction of the spiral and helix. Construction of screw forms. Interpenetrations of the cone, cylinder, and sphere. Shades and shadows of simple geometric forms. Problems in monodiametric and isometric projection.

6. **Descriptive Geometry.** Second year, spring term. Discussion and solution of the usual problems relating to the point, right line, and plane. Generation and classification of lines and surfaces. Discussion and construction of tangents, normals, and asymptotes to lines and surfaces. General characteristics of warped surfaces. Graphic analysis of the hyperbolic paraboloid, the conoid, the hyperboloid of revolution, the cylindroid, the helicoid, etc.

7. **Linear Perspective.** Third year, fall term. Linear perspective is taught as central projection, and is intended to furnish the scientific answers to the questions which constantly confront the student of drawing from the object. It comprises the subjects of vanishing points, vanishing traces, measuring points, cylindric perspective, perspective corrections, shades and shadows in perspective,

and studio methods. The models used in the work in sketching are objects whose forms bear close relationship to geometrical types. The students are led to recognize the facts, relations and principles involved in the apparent form of the object, to note the distribution of light, shade, shadow and reflection on the same, and deduce the general principles which the observation and comparison of these appearances are found to establish. Each student is required to make eighteen original crayon sketches during the term.

8. **Color and Design.** Third year, fall term. Discussion of the nature and influence of color, its use and abuse, and the principles that underlie good design and consistent, harmonious color combinations. Original designs in construction and decoration as applied to fabrics, dress and articles of common use in the home, that young women may recognize and appreciate that which is beautiful and appropriate, and may become more discriminating as purchasers.

9. **Home Decoration.** Third year, spring term. A study of design in its application to the home; its plan, furniture, and decoration. Emphasis is laid upon the refining and educating influence of well-chosen and appropriate decoration, the importance of simplicity being urged. Lectures on fine arts and the handicrafts, teaching that the home should show that fine art and industrial art are not to be considered separately.

Problems in planning and decorating houses.

10. **Architectural Course.** The courses of study for all engineering branches must necessarily be the same with regard to work of a preparatory or general character, but differ with regard to the professional branches. Students who intend to take architecture in place of mechanical engineering may substitute architectural studies for the strictly professional work of the third and fourth years of that course. The department of industrial art is well equipped to teach the branches named. It owns a rapidly growing collection of illustrative building material, complete sets of drawings and blue-prints of most of the Kansas state buildings, a photographic camera, a dark room equipped with running water and ruby light, etc. The substantial buildings of the institution and its complete system of heating and lighting furnish additional illustrative material.

PHYSICS LABORATORY.

English Language and Literature.

As its name implies, the work of this department is twofold; on the one hand it deals with the derivation, nature and especially the effective use of our mother tongue in practical discourse; on the other, it studies the literature of the English-speaking world, as exemplified by the master writers at different periods of our literary development. Thus the attention of the department is devoted to the study of rhetoric and to the study of literature.

The aim of the instruction in rhetoric is to give a thorough and systematic training in the principles and practice of English composition. The most common errors to which inexperienced writers are subject are pointed out and criticized. The elements of style are studied from a text-book, discussed in daily recitations, and applied practically in the writing of paragraphs, themes, and essays. Attention is given to methods of finding, selecting and arranging material and to the application of these methods in the various types of discourse.

In literature, the instruction seeks to give the student an understanding of the nature and characteristics of literature in its leading forms, to develop in him a taste for the best literature and enthusiasm for literary study, to impart to him right methods, to train him in the ability to judge with confidence the literary qualities of any given work, and, through sympathetic study of masterpieces, to give him some knowledge of the leading authors.

In most of the courses the work is pursued by a combination of lectures, classroom study, and seminary investigation. The literature is read at first hand and the student is required to do for himself, by way ef interpretation, as much as possible. The extensive and intensive methods are combined: wide reading, to get literary atmosphere and breadth of view; critical study, to develop accuracy and insight. While historical conditions are not neglected, the weight of emphasis is placed upon the permanent qualities of literature as an artistic expression of life. To know what some one has said about a great author is deemed to be of less importance than to know what a great author has said for himself.

Students who present acceptable evidence of having satisfactorily studied the works now generally prescribed for admission to American colleges and universities, or the equivalent of those works, may receive credit for the course in English readings given in our preparatory year and for the course in English classics given in the first year. The works prescribed are divided into two groups—one for intelligent reading and one for careful study. The lists for the next two years are as follows:

I. For Reading: Shakspere's The Merchant of Venice and Julius Cæsar, the Sir Roger de Coverley Papers, Goldsmith's The Vicar of Wakefield, Coleridge's The Ancient Mariner, Scott's Ivanhoe, Carlyle's Essay on Burns, Tennyson's The Princess, Lowell's The Vision of Sir Launfal, George Eliot's Silas Marner.

II. For Careful Study: Shakespere's Macbeth, Milton's Comus, L'Allegro, and Il Penseroso, Burke's Speech on Conciliation with America, Macauley's Essays on Milton and Addison.

The examination for credit in English readings will usually consist of writing a paragraph or two on each of the several topics drawn from group I of the above list, or from the list given on page 91 of the catalogue, under the heading "English Readings." The treatment of the topics will be designed to show a general knowledge of the books read, and especially to test the candidate's power of clear and accurate expression. For credit in English classics the examination

will be upon the subject-matter, form, and structure, and presupposes a thorough study of the books in group II above or in course 1 below. Especial attention is called to the fact that candidates are thus left free to offer for credit either the books in the lists named or to substitute others of equivalent literary value.

Each applicant for admission is advised to present from his instructor a detailed statement of the books read, the time covered by any course, and the grades attained, together with any exercise book he may have containing compositions or other written work done in connection with his studies in English.

What other credits in preparatory or freshman English shall be given will be determined partly by the examinations described above and partly by other evidence the candidate may give that he understands the essential of grammar and has a practical knowledge of the elements of composition. The aim will be to assign each student to that course which he is prepared to pursue with greatest profit.

All applications for credit in English should be presented at the beginning of the first term of attendance.

Of the studies described below, Nos. 1, 2, 3 and 4 are required in all courses; No. 5 is required in the agriculture and engineering courses; Nos. 6 and 7 are required in the domestic science and general science courses.

1. **English Classics.** First year, fall term. A careful study is made of a number of standard authors, English and American, of first-class interest and easy style. As far as possible, the selections are read and discussed in class. Character sketches, paraphrases, abstracts, outlines, and analyses, as well as biographical sketches of the authors, are regularly required. The students are given continual opportunity for studying and rendering the best thought in the best forms, and are at the same time encouraged to develop their own thought and powers of expression. The aim of the course is to afford practice in composition as well as a knowledge of the selections read.

Class Readings.—Shakspere's Merchant of Venice; Milton's Minor Poems;

FAIRCHILD (LIBRARY) HALL.

Pope's Homer's Iliad; Coleridge's Ancient Mariner; Scott's Ivanhoe; Tennyson's Princess; Cooper's Last of the Mohicans; Lowell's Vision of Sir Launfal.

2. **Advanced Composition.** First year, winter term. The work in this course is a continuation and extension of that begun in composition. Especial attention is given to precision in the choice of words, to correctness in the various forms of sentence structure, and to unity and coherence in both the sentence and paragraph. Constant practice is given in writing paragraphs and in the preparation of brief essays on familiar themes.

3. **Rhetoric I.** First year, spring term. A continuation of course 2. Further practice is given in paragraph writing. Description, narration and exposition are studied as distinct types of discourse, with constant practice in making outlines and writing themes illustrative of these types. So far as possible the student is trained in the habit of criticizing his own work.

4. **Rhetoric II.** Third year, fall, winter or spring term. Study of style and invention. Rhetorical analysis of masterpieces. Lectures on oratorical composition. Practice in the making and criticism of plans for arguments and orations. Essays in exposition, argumentation, and persuasion, and briefs for debate.

5. **English Literature.** Fourth year, winter or spring term. A brief survey of the rise and development of English literature, with library study of typical authors. Lectures: The nature of literature; the nature of poetry; the periods of English literature. Class study and interpretations of masterpieces.

6. **English Literature I.** Fourth year, fall or winter term. The history of the English language and literature. Lectures: What is literature? What is poetry? Elements of literary criticism; the beginnings of fiction; nature of the drama; the plays of Shakspere; the age of Scott, Burns, and Wordsworth; Tennyson and his relation to his age. The study of Shakspere, Thackeray and other great writers out of class, with reports and discussions. Classroom study and interpretation of masterpieces.

7. **English Literature II.** Fourth year, winter or spring term. A continuation of course 6. The study of Shakspere, Shelley, Thackeray, Burns, Browning, and other writers. Elements of Shaksperian criticism.

ELECTIVE.

8. **American Literature.** Fourth year, spring term. A rapid survey of the rise and development of American authorship from colonial times to our own day. Study of the lives of representative men of letters. Seminary study of some of the great novels, essays, and longer poems. Classroom study and interpretation of some of the more difficult poems. Lectures.

Entomology and Zoology.

It is not necessary to enlarge upon the importance of the studies in this department either to the student seeking general culture or to the specialist in agricultural lines. The fundamental facts of zoology underlie all appreciation of the special studies peculiar to our institution in animal biology, and are moreover essential to an understanding of the true relation subsisting between man and the creatures under his influence; while those of geology show the application of many principles of physics and biology to commonly observed but otherwise little understood phenomena daily before every one. In courses of study framed to meet the needs of the young in an essentially agricultural community, where most have come from the farms, and most must return to them, a study of the minute but important insect friends and foes of the cultivator is not only desirable but essential. The study of insects, however, offers, in addition, especial opportunity for the development of habits of discriminating observation that will be of value in any walk of life.

Of the studies here outlined, Nos. 1, 3 and 4 are required in the agriculture and general science courses, Nos. 1 and 3 in the domestic science course.

1. **Entomology.** Second year, fall, winter or spring term. In the work of this term the intention is to give the student a basis for the intelligent appreciation of the important relations of the science to agriculture and horticulture. A brief view of structural types precedes an outline of insect classification, and a special study of the economic bearings of the subject completes the work. Illustrative material is furnished from the individual collections of the students and from the College museum. Charts, dissections and drawings from nature are used to illustrate points of value in classification. The pocket lens used in botany is required in this study. Text-book, Comstock's Manual for the Study of Insects, abridged.

2. **Advanced Entomology.** Fourth year, elective. Courses are offered in the following lines: (*a*) Review of the general subject, with the text-book, Comstock's Manual, extended. This study is desirable as preliminary to work in systematic or economic entomology. (*b*) Entomological methods, including field-work in observation and collection, laboratory work in preparation, dissection, and preservation, and in the study of life-histories, by the aid of the vivarium. (*c*) The independent and critical study of systematic entomology, the work in which may be restricted, when desired, to groups of special agricultural importance. (*d*) Economic entomology, so far as relates to the insects of field and garden, with a special study of methods of repression.

3. **Zoology.** Third year, winter or spring term; fourth year, fall term. This course is an introduction to the study of animals—their structure, functions, habits, origin, relationships, and classification. The student is first introduced to the simplest forms of animals, in which structure and function are expressed in their simplest terms. From the consideration of these he passes in a natural manner to the study of higher and more complex forms, thus obtaining a knowledge of the gradual differentiation of structure and correlative specialization of function so clearly illustrated by the study of types. Special attention is paid to animal ecology, *e. g.*, the relation of animals to their environment, effects of climate, soil, etc.; parasitism, commensalism, symbiosis; natural and artificial selection; the interdependence of species, and the caution which must be observed in interference with these natural relations. The course should be preceded by organic chemistry and physiology.

MEANS OF ILLUSTRATION.

The zoological museum, containing numerous representatives of the several classes, especially full in fishes and mollusks of Kansas and in illustrations in economic and systematic entomology. Increasing material in skins, alcoholic and anatomical preparations is available also for the use of the student.

4. **Geology.** Fourth year, fall or winter term. In this study attention is chiefly given to the subject of physical geology, with a brief view of the arguments and basis of the historical phase of the science. The illustrative collections embrace ample series of specimens, including the College collection of rocks, the stratigraphical collection, and the collection illustrating phenomenal geology, all from the Ward establishment; the educational collection, from the United States Geological Survey; and a valuable series of rocks and rock-forming minerals, from the National Museum. To these are added numerous specimens, especially from Kansas localities; and a small but increasing representation of characteristic fossils is also open to the student.

AGRICULTURAL HALL.

German.

A department of German will be organized the coming year and placed in charge of a competent professor.

History and Economics.

The department of history and economics offers four courses in the third and fourth years, of which three are arranged in consecutive terms and planned so as to make a logically continuous course. The modern European history includes the American history to 1776. Then the course in civics takes up the study of the articles of confederation and of the constitution. The third term is devoted to an advanced course in American history under the constitution. The constant aim is to make the work definite and practical, in keeping with the spirit of the school.

Nos. 1, 2, 3 and 4 are required in all courses.

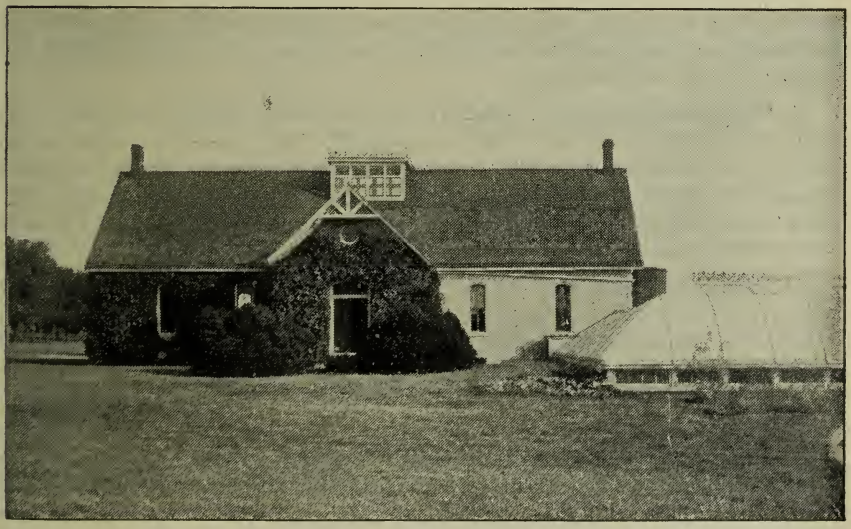
1. **European History.** This course covers the period since 1492. The following are among the subjects emphasized: The Protestant Reformation and the later development in the history of the church; the thirty years' war, especially its causes and results; the second great series of wars between England and France, including the French and Indian wars, the American revolution, and the Napoleonic wars to 1815; the French revolution; the rise and fall of Spain; the growth of France and recent changes in her government; the creation of the German empire and of modern Italy; the heroic struggle of the Netherlands and the growth of Russia; the last century of European history, the chief facts in the present governments of the European nations, and their present international relations. Special attention is given to English history and her present government, for England's history includes that of her American colonies down to the war of American independence. Text-book, Schwill's History of Modern Europe.

2. **Civics.** This course is introduced by a brief study of the government of the colonies; the English government and the causes of the American revolution, in so far as these help to explain our present constitution; a careful study of the articles of confederation and the government under them; the constitutional convention and the adoption of the constitution. The work of this term is chiefly devoted to a systematic study of our national constitution and of the actual government under that instrument. Constant comparison is made with our own state government. Current events and incidents from history are used to illustrate the various points until the every-day affairs of our government are made clear and familiar. Comparison with other governments, especially with that of England, is made wherever this seems helpful. Selected cases from the United States supreme court reports are studied. A few lectures are given on the principles of international law and of commercial law. Text-book, Andrews's New Manual of the Constitution. References: Boyd's Cases; Hart's Actual Government; Cooley's Constitutional Law; Story on the Constitution; Bryce's American Commonwealth; the national and state statutes.

3. **American History.** This is an advanced course in the history of the United States under the constitution. The brevity of the course requires judicious selection of the points to be emphasized, and the following lines of our national history are especially studied: The establishment of the nation and the organization and functions of the various departments of its government; the

important presidential elections; Hamilton's financial measures, taxation, banks, internal improvements; history of political parties, their issues and their leaders; foreign relations and connecting links between Europe and America, as in the Monroe doctrine; the slavery question — compromises, the laws and the constitution; nullification and secession throughout our history; annexation and government of territories; national boundaries; the growth and development of the West, with a study of its influence on our national character and history; the early Kansas struggle; civil war, reconstruction, and the new nation. The whole course is a study of the practical application of our constitution in operation. Text-book, Channing's Students' History of the United States. Library work on selected topics.

4. **Economics.** Fourth year, fall, winter or spring term. Although the instruction in this course is based largely on the text-book used, the student is required to supplement his knowledge of fundamental principles thus acquired with reference work in the library. Special topics for individual research will be assigned to each student from time to time, with the end in view of training him in methods of scientific investigation and conclusion. The views and conclusions of others will be subordinated to the purpose of making him think for himself. Text-book, Walker's Political Economy, briefer course.



HORTICULTURAL HALL.

Horticulture.

It is the object of the department to give such instruction and practice as will enable students to become acquainted with the general principles of plant culture and the practical applications of these principles. The work is planned to give them such knowledge of horticulture as will best help to increase the capacity of the student for the enjoyment of outdoor life and work with plants and to enable them to increase the comforts, beauties and profits of life on the farm.

No. 1 is required in the agriculture, domestic science and general science courses; Nos. 2 and 3 in the agriculture course; and No. 4 in the domestic science course.

1. **Horticulture.** Second year, winter or spring term; third year, fall term. The work of this term presents the principles of the art, introducing the facts underlying the methods of general practice in nursery, orchard and garden work. The text-book, Goff's Principles of Plant Culture, is supplemented by lectures which are intended to adapt the general principles to the particular conditions which the student is likely to meet. The planning and planting of windbreaks, groves, orchards, and gardens, with notes as to species and varieties adapted to various conditions, form the subject-matter of the lectures.

Laboratory.—This includes work in testing and planting seeds; the construction and care of cold-frames and hotbeds; spring pruning; setting trees and plants; the use of garden tools and spraying apparatus.

2. **Horticulture Laboratory.** Third year, fall term. The work consists of the fall work in pruning and protecting trees, shrubs, and vines; the collecting and handling of seeds, indoor methods of propagation, including the making and storing of grafts and cuttings.

3. **Vegetable-gardening.** Third year, spring term. The work of this term is given by lectures, and is devoted to methods of field operations, with special attention to seasonable practice, including the use of manures, the application of fungicides and insecticides, the means of securing and maintaining sanitary conditions, and a detailed study of varieties, with reference to their adaptation to local conditions.

4. **Floriculture.** Second year, winter term. This consists of laboratory work in propagating, potting and caring for plants, window-gardening, seed-sowing, and transplanting seedlings. Opportunity is furnished the student to become familiar with the various window and greenhouse plants.

Students who choose their electives along horticultural lines are offered:

ELECTIVES.

5. **Pomology.** Fourth year, fall term. The work of this term comprises a careful study of the classification of fruits; a systematic study of varieties; the means of identification; their variation in plant and fruit under different conditions of soil and culture; and their botany and history. Waugh's Pomology is used as a text, and work with fruits is made a part of the course.

6. **Forestry.** Fourth year, winter term. The work of this term presents the general principles and methods of forestry, dealing with the relations of forests to public welfare, and the means of regulating and preserving forests. Gifford's Practical Forestry forms the basis of the term's work, supplemented by lectures upon tree-planting for the farm, care of wood-lots, windbreaks, post planting, etc.

7. **Ornamental Gardening.** Fourth year, spring term. The principles of

this art are studied in relation to their application to the planning and planting of home grounds, streets, parks, and cemeteries. The value of the various trees, shrubs, annual and perennial herbaceous plants for securing desired effects are taken up in detail, with special reference to their use under differing climatic and soil conditions. Graduate students or those electing more than a single term's work in this subject study in fuller detail the foregoing topics and also the propagation, training and general culture of the various plants.

The increasing interest in the preservation and increase of forest areas has created a demand for more extended information concerning forest work and methods. The plantations of the College, standing as they do in different soils and situations, offer material for comparison with native growths. The nursery offers opportunity for experience and observation in methods of propagation and transplanting and the formation of new plantings.

Graduate students are offered the following:

8. **Dendrology.** Lectures. The characters of trees; their habits of growth as influenced by local conditions; distribution of the different species; special study of the native species; flower, leaf and seed characters; methods of propagation.

Laboratory.—Nursery practice; planting, thinning and pruning of plantations; pruning and care of shade and ornamental trees.

9. **Forest Technology.** Text, Boulger's Wood. Structure and growth of woods; their classification according to structure and economic uses.

Laboratory.—Gathering and storing of seeds; fall and winter planting; special treatment to insure germination, etc.

10. **Silviculture.** Lectures and references. Life-history, laws of growth and requirements of forests; forest characteristics; trees important in forestry and to farm plantings; relation of forestry to national economy.

Laboratory.—Forest mensuration. Determinations of volume, height, and stand, and the determination of the volume, height and stand increments. Stem analysis; valuation surveys, etc.

11. **Forest Management.** Plans and plantings of forests; their cultivation, care, and protection; plantings for definite purposes—to prevent erosion, protection from wind, to fix shifting sand, to regulate floods, for the utilization of worthless areas; harvesting, utilization, etc.

MEANS OF ILLUSTRATION.

Orchards comprising seventy-five varieties of apples, forty of plums, thirty of peaches, fifteen of cherries; plantations of native fruits; small-fruit plantations containing many varieties; vineyards containing 175 varieties, and six forms of trellises; a large collection in the arboretum and on the grounds of shrubs and timber, shade and ornamental trees; about thirty acres of forest plantings; fifteen acres of nursery and garden; a large collection of native and foreign plants in greenhouses; a collection containing 200 models of fruit; a grape herbarium containing leaves, canes, seeds and photographs of the fruit of 175 varieties of grapes; collections and specimens of woods; herbarium of fungous diseases, and numerous charts. The general library and the department library furnish ample opportunity for research work in various lines.

Mathematics.

It is the aim of the department of mathematics to give a thorough training in a small number of subjects, and to develop in the student the ability to attack new problems successfully rather than to burden his mind with a large number of facts and special methods. It is also characteristic of the methods of the department that an attempt is made to give the mathematical subjects a touch of human interest by directing the attention of the student to the historical development of these topics. The statement following contains a brief description of the courses to be given.

Nos. 1 to 8 are required in the engineering courses, and Nos. 9 and 10 in the mechanical and electrical courses, respectively; Nos. 1 to 5 in agriculture and general science courses, and Nos. 1 to 3 in domestic science.

1. **Geometry I.** First year, fall term. Text-book, Gore. First, second, and third books, with exercises for original demonstration.

2. **Geometry II.** First year, winter term. Continuation of course 1. Fourth, fifth, sixth, seventh and eighth books, treated as before, with special attention to original work.

3. **Algebra IV.** First year, spring term. Text-book, Wells's New Higher Algebra. Binomial theorem, undetermined coefficients, logarithms, and general theory of equations.

4. **Trigonometry.** Second year, fall term. Text-book, Wentworth. Solution of plane triangles, essentials of goniometry, applications to surveying and navigation.

5. **Surveying.** Second year, fall term. Field-work two hours per week. Use and adjustment of instruments, chaining, leveling, and land surveying.

6. **Analytical Geometry.** Second year, spring term. Text-book, Wentworth. Rectangular and polar coordinates; the straight line, circle, parabola, ellipse, hyperbola, and the general equation of the second degree.

7. **Differential Calculus.** Third year, fall term. Text-book, Osborne. The various methods of differentiation, with the usual applications.

8. **Integral Calculus.** Third year, winter term. Same text. Integrations, with applications to curves and surfaces.

9. **Definite Integrals.** Third year, spring term. Integration between limits. Lectures on the theory of the subject, with applications to practical problems.

10. **Differential Equations.** Third year, spring term. Lectures on the theory of the subject, with solution of examples of the various types.

In addition to the above, courses in theory of equations, advanced calculus, theory of functions, or other branches of higher mathematics may be offered to graduate students, or to undergraduates who are able to carry extra work.

Mechanical Engineering.

The subjects in this course are adapted primarily to the needs of the students in mechanical engineering, but a few subjects are introduced to meet the requirements of the other courses. The subjects are so arranged that the student first learns the principles upon which the action of a mechanism depends in the classroom, and afterwards studies the action of the same mechanism in the laboratories and shops.

In the mechanical engineering course, all numbers below are required but 26 and 34.

In the agriculture and general science courses, Nos. 1, 2 and 3 are required.

In the electrical engineering course, all the subjects in the first and second years are required. In the third and fourth years, Nos. 11, 12, 13, 14, 15, 16, 26, 29, 34, 35 and 37 are required.

1. **Woodwork I.** First year, fall term. A graded set of problems in joining is given, together with practice in working to dimensions, and the proper use and care of bench tools.

2. **Woodwork II.** First year, winter term. This work is a continuation of that given under woodwork I.

3. **Blacksmithing I.** First year, spring term. A graded set of problems designed to teach the operations of drawing, upsetting, welding, and forming, accompanied with instruction in the care of fires and the behavior of iron at different heats.

4. **Shop Lectures I.** Second year, fall term. Lectures of this term are on the structure and properties of the various structural materials.

5. **Blacksmithing II.** Second year, fall term. Advanced work in the forging of iron and the manufacture of steel tools. Instruction is given in tempering, case-hardening, and annealing.

6. **Kinematics of Machinery.** Second year, winter term. An elementary course in mechanisms, particularly the principles involved in the construction of gears, cams, and quick return motions. Preparation required: Trigonometry. Text-book, Jones's Machine Design, volume I.

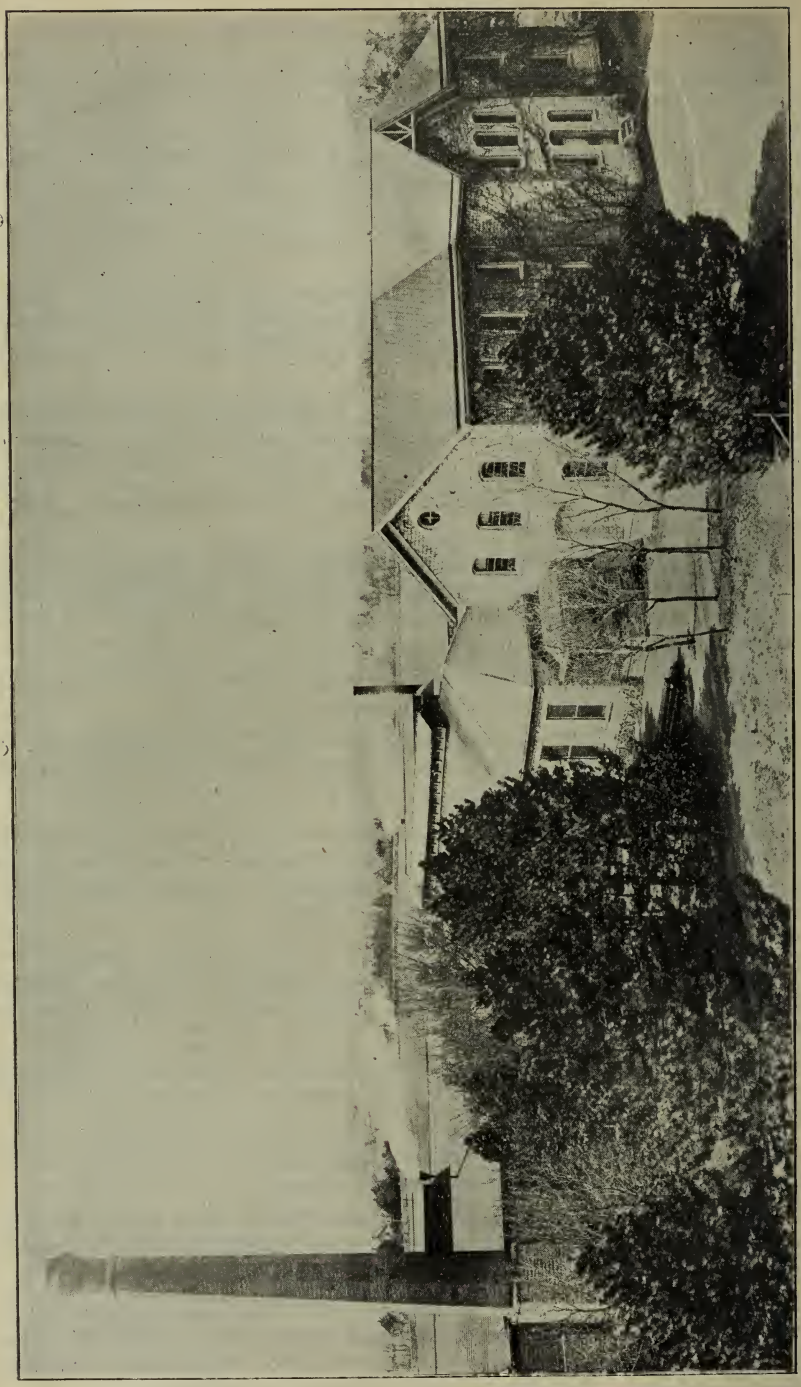
7. **Foundry.** Second year, winter term. Foundry practice is given in both floor and bench molding, including the making of cores, brass and iron castings, and the mixture of special alloys. Cupola practice and the making of machine castings for shop use are included.

8. **Shop Lectures II.** Second year, spring term. Lectures of this term are selected to accompany the work in pattern-making. Preparation required: Foundry.

9. **Mechanical Drawing I.** Second year, spring term. Exercises in lettering, shading, and the drawing of simple mechanisms.

10. **Pattern-making.** Second year, spring term. This term's work includes wood-turning and pattern-making. Each student is required to turn several specimens and make various patterns.

11. **Mechanics.** Third year, fall term. A course in elementary mechanics, including the laws of motion, force, work, and energy, together with the composition and resolution of forces. Preparation required: Trigonometry and kinematics of machinery. Text-book, Dana's Elementary Mechanics.



MECHANICS' HALL.

12. **Shop Lectures III.** Third year, fall term. Lectures are given on the construction, use and care of shop tools and on shop methods.

13. **Mechanical Drawing II.** Third year, fall term. The design of cams, gears, and quick return motions. Preparation required: Mechanics and mechanical drawing I.

14. **Machine-shop I.** Third year, fall term. Practice in chipping, filing, scraping, and laying out work from drawings.

15. **Mechanical Drawing III.** Third year, winter term. A continuation of mechanical drawing II, and practice in machine drawing.

16. **Machine-shop II.** Third year, winter term. Instruction in lathe work, gear-cutting, boring, and drilling.

17. **Valve Gears.** Third year, spring term. A study of the design, construction and operation of the valve gears and linkages of steam and other engines. Preparation required: Power transmission and differential calculus. Text-book, Peabody's Valve Gears for Steam-engines.

18. **Shop Lectures IV.** Third year, spring term. A continuation of the lectures given in previous terms, with special attention given to duplication of work in shops.

19. **Mechanical Drawing IV.** Third year, spring term. A continuation of the previous term's work.

20. **Machine-shop III.** Third year, spring term. Advanced work on lathes, planers, and milling-machines, including tool-making.

21. **Steam-boilers.** Fourth year, fall term. A study of the construction, erection and operation of steam-boilers and appliances, including the study of tools. Preparation required: Valve gears and integral calculus. Text-book, Peabody and Miller's Steam-boilers.

22. **Graphic Statics.** Fourth year, fall term. The graphic solution of the problems arising in the construction of roofs, bridges, and other framed structures. This subject is taught by means of lectures and drawing exercises. Preparation required: Mechanics and mechanical drawing IV.

23. **Shop Lectures V.** Fourth year, fall term. Lectures on cost accounting, estimations on work, etc.

24. **Engineering Laboratory I.** Fourth year, fall term. Experiments in valve-setting, efficiency of hoists, gage and planimeter tests, etc. Preparation required: Third-year mechanics and steam-boilers. Text-book, Smart's Laboratory Practice.

25. **Mechanical Drawing V.** Fourth year, fall term. The design of the valve motions and reciprocating parts of the steam-engine, and work in drawing-room based on the classroom work in valve gears.

26. **Mechanical Drawing VIII.** Fourth year, fall term. This work is given the electrical engineers only, and consists of exercises in machine drawing, etc.

27. **Machine-shop IV.** Fourth year, fall term. The time of this term is devoted to the building of a small machine or making the parts of a large one.

28. **Thermodynamics I.** Fourth year, winter term. A study of the ther-

modynamic principles of perfect gases, saturated and superheated vapors, and the theory of injectors. Preparation required: Steam-boilers and definite integration. Text-book, Peabody's Thermodynamics of the Steam-engine.

29. **Applied Mechanics I.** Fourth year, winter term. The application of the principles of theoretical mechanics to problems arising in practice. Preparation required: Graphic statics and definite integration. Text-book, Goodman's Mechanics Applied to Engineering.

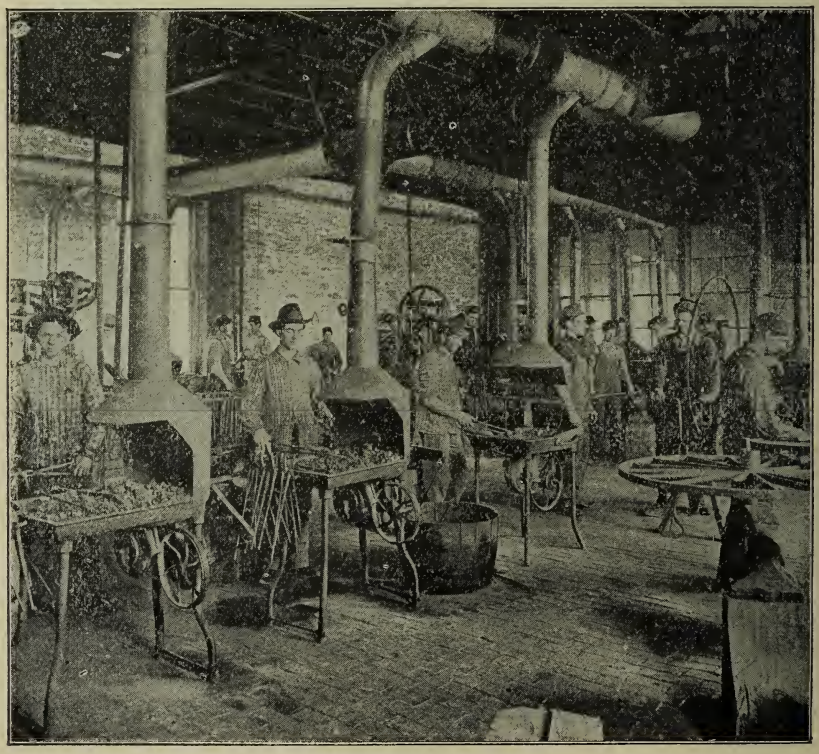
30. **Shop Lectures VI.** Fourth year, winter term. Lectures on the methods of construction of shop buildings and arrangement of manufacturing establishments.

31. **Engineering Laboratory II.** Fourth year, winter term. A continuation of the previous term's work, with practice in running steam-engine and air-compressor tests. Preparation required: Engineering laboratory I.

32. **Mechanical Drawing VI.** Fourth year, winter term. The design of a complete machine, engine or boiler; an application of the principles studied in thermodynamics and applied mechanics. Preparation required: Mechanical drawing V and steam-boilers.

33. **Machine-shop V.** Fourth year, winter term. A continuation of the previous term's work.

34. **Engineering Laboratory IV.** Fourth year, winter term. A course in testing the strength of materials and steam-engines, for electrical engineering students.



BLACKMSTIH SHOP.

35. **Applied Mechanics II.** Fourth year, spring term. A continuation of the work of the previous term, including a study of the strength of materials, and the design of structural members. Preparation required: Applied mechanics I. Text-book, Goodman's Mechanics Applied to Engineering.

36. **Thermodynamics II.** Fourth year, spring term. A continuation of the work of the previous term, including the thermodynamics of gas-engines and air-compressors. Preparation required: Thermodynamics I. Text-book, Peabody's Thermodynamics of the Steam-engine.

37. **Hydraulics.** Fourth year, spring term. This term's work includes a study of the principles of hydrostatics and the action of water motors. Preparation required: Third-year mechanics and definite integration. Text-book, Merriman's Treatise on Hydraulics.

38. **Mechanical Drawing VII.** Fourth year, spring term. A continuation of the previous term's work.

39. **Engineering Laboratory III.** Fourth year, spring term. A continuation of the previous term's work, including tests on the strength of materials and tests on gas-engines. Preparation required: Applied mechanics I and thermodynamics I.

40. **Thesis.** Fourth year, winter and spring terms. Engineering students are required to present for graduation a suitable thesis on some subject relating to their work. It is expected that the work done on the thesis will be equivalent to at least five hours per week during the winter term and ten hours per week during the spring term.

EQUIPMENT.

The shops of the Kansas State Agricultural College are furnished with the best modern machinery and tools for working both wood and iron, and are in operation six days per week throughout the year.

Wood Shop.—This wood-working room is 40x103 feet, contains 220 separate kits of tools, and benches for forty-four students in each class, eight wood lathes, with sixteen sets of turning chisels and other tools, wood planer, circular saw, friezer, power mortising-machine, grinders, and tool-room containing all kinds of wood-working tools for general use, together with complete outfit of wheelwright's tools.

Machine-shop.—This room is 40x80 feet, contains twelve fourteen-inch engine-lathes, one twenty-eight-inch by twenty-foot engine-lathe equipped with blocks to raise it to sixty-inch swing, one sixteen-inch combination engine- and turret-lathe, speed-lathe, Gray planer, Hendey-Norton shaper, Brown & Sharpe No. 2 universal milling-machine, Walker universal grinder, special drill-grinder, key-seater, bolt-cutter, pipe-machine, vertical drills, fifty-one-inch vertifical turning- and boring-mill, benches and tools for fifty students, and a completely stocked tool-room, equipped with the finest modern tools.

Blacksmith Shop.—This room is 40x50 feet, equipped with twenty-four forges fitted with power exhaust. Each forge has anvil and complete set of smithing tools. In addition to the general tools for a fully equipped blacksmith shop, there are also installed here a drill-press, emery-grinders, cold saws, and a number of pieces of special apparatus built by the department.

Iron Foundry.—This room is 40x50 feet, equipped with a two-ton cupola, a one-and-one-half-ton steel crane, core oven, an exceptionally large number of flasks, both wood and iron, ladles, etc. The foundry makes all castings for machine building, together with boiler fronts, grate-bars, and special repair work.

Brass Foundry.—This room is 16x30 feet, with furnace, crucibles, flasks, and a complete equipment for bench and floor molding. The product consists of bearings, friction metal, valves, fittings, etc.

Pipe-fitting Room.—This room is 18x50 feet, containing a motor-driven Jarecki pipe machine, and is completely equipped with tools used by steam-fitters. Practice in pipe-fitting and steam-fitting is given. This room is also used for storing patterns, of which the College has a large and valuable collection.

Engineering Laboratory.—This room is 35x40 feet, and contains a great variety of apparatus, among which may be specified a 100,000-pound testing-machine, both automatic and autographic; an eight-horse-power vertical steam-engine; an eight-by-eight Ingersoll-Sargeant air-compressor; a six-horse-power Sturtevant engine, used as an air motor; a ten-horse-power Witte gasoline-engine; a six-horse-power Dempster gasoline-engine; complete cement-testing outfit; absorption and transmission dynamometers; steam- and gas-engine indicators, gage-testing apparatus, and a variety of special machines for the testing of material; also, thermometers, calorimeters, speed indicators, etc. The very complete boiler- and engine-rooms adjoining the laboratory afford special opportunities for the work relating to steam engineering.

Power Plant.—The boiler-room contains five sixty-horse-power horizontal, return-flue boilers, three 100-horse-power boilers, pumps, steam-traps, etc. These boilers are used for the generation of steam, both for power and heating purposes, and are independently connected, that they may be tested individually or in groups. The engine-room is equipped with one 100-horse-power, medium speed engine, directly connected to a 60-K. W. multipolar generator, with marble switch-board and complete apparatus; one fifty-horse-power Ball & Wood engine, belted to bipolar generator, with switchboard; one ten-horse-power Atlas engine; one five-horse-power generator, built in the shops, for testing purposes; one Shipman coal-oil engine, and several small dynamos for testing purposes. In connection with the power plant is a very complete rope-driven installation, especially designed for the department.

Drawing-rooms.—On the second floor of the wood-working department are found the drawing-rooms, photographic rooms, and paint and varnish rooms.

Military Training.

This institution being one of the beneficiaries of the act of Congress of 1862, instruction in military tactics is made compulsory. The course of instruction is made to conform strictly to the provisions of General Orders No. 94, War Department, Washington, D. C., August 9, 1902.

In compliance with the minimum requirements of that order, the course will be both practical and theoretical, and applied as follows:

a.—Practical.

1.—Infantry drill regulations, through the school of the battalion in close and extended order.
2.—Advance and rear guards, and outposts.
3.—Marches.
4.—The ceremonies of battalion review, inspection, parades, guard-mounting, and escort of the colors.
5.—Infantry target practice.
6.—Instruction on first aid to the injured.
7.—A guard mounted five times (weather permitting) in each week of the school year, and the guard shall be practically instructed for one hour in the posting and relief of sentinels and their duties.

b.—Theoretical.

1.—The infantry drill regulations, covered by the practical instruction.
2.—The manual of guard duty.
3.—Small-arms firing regulations, parts I, II, and III.
4.—The Articles of War, with specific reference to articles 4, 8, 15, 20, 21, 22, 23, 24, 32, 38, 39, 40, 42, 44, 46, 47, 50, 55, 57, 61, and 65.
5.—And the following records:

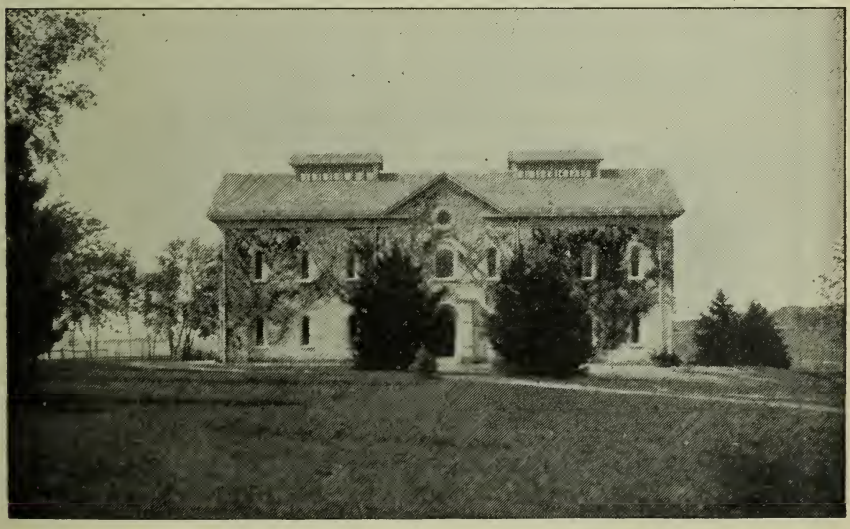
Enlistment and discharge papers, including descriptive lists.
Morning reports.
Field and monthly returns.
Muster-rolls.
Rosters.
Ration returns.
Requisitions.
Property returns.

And a lecture course, as follows:

One lecture on the organization of the United States army.
One lecture on the organization of the volunteers and militia.
One lecture on patrols and outposts.
One lecture on marches.
One lecture on camps and camp hygiene.
Three lectures on lines and bases of operations.
Two lectures on the attack and defense of advance and rear guards and outposts and convoys.

All of the foregoing to be illustrated by historical examples. These lectures are to be made the basis of subsequent recitations and of written examinations.

The national government has supplied the College with 395 cadet rifles and an equal number of sets of infantry accouterments; also two three-inch field guns and carriages. Swords, target supplies and annual issues of ball and blank cartridges are also received from the general government. Each student buys his own suit, to be worn at all drills. The following is a description of the suit: "This suit to consist of regulation blue cap, with College emblem; blue blouse, cut and trimmed in officers' style; gray trousers, trimmed with black mohair braid."



ARMORY.

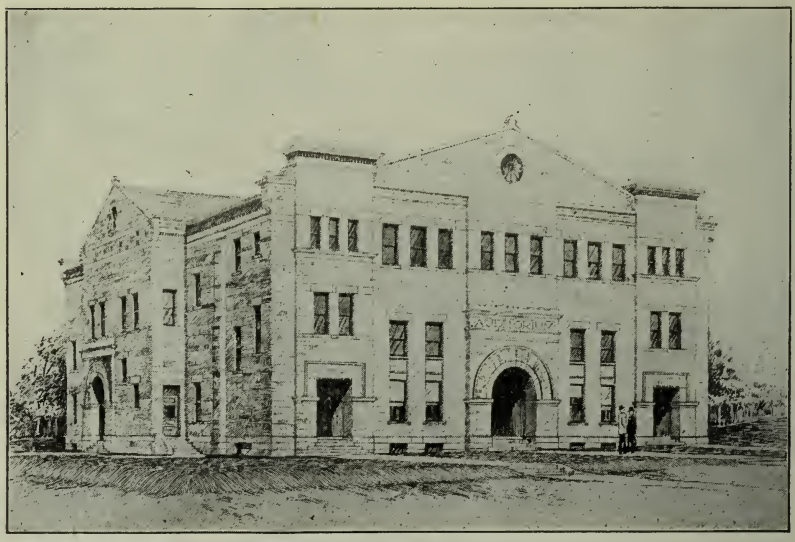
War Department Record. At the close of the year the names of the three cadets most distinguished in military science and tactics are reported to the War Department for insertion in the United States army register, and also to the adjutant general of the state.

Organization. The cadets are organized into a battalion of four companies and a band. The commissioned officers are chosen from the senior and junior classes, and the non-commissioned from the sophomores. All young men in the freshman and sophomore years are required to take drill, unless excused for physical disability.

Uniform. The uniform is simple and inexpensive, and makes a good suit for regular wear. All students will be required to present themselves in uniform within ten days after assignment.

Text-books.—Each military student will be required to provide himself with the following text-books immediately after assignment: United States Drill Regulations (latest edition), The Manual of Guard Duty (latest edition), Small-arms Firing Regulations (latest edition), Military Science (to be prescribed).

The instruction in keeping records will be from blank books, to be provided by the War Department. The articles of war specifically mentioned are among the most important for the young officer to know on first entering the service. The records prescribed for study should be thoroughly understood by all graduating cadets, because they show how the soldier enters and leaves the service, how he is accounted for, paid, fed, clothed, armed, and how his military duties are regulated.



AUDITORIUM.

Music.

Recognizing music as a factor in education which is practical and elevating, and believing that the germ of artistic faculty exists in every normal person, the following generous provisions have been made for its introduction into the several courses:

Pupils may take music for a single term or more. A full course, extending over four years, includes theory, notation, singing, voice culture, harmony, composition, instrumentation, and technical drill on one or more instruments. The College pianos and organs (limited in number) are used for daily practice by pupils who take music as an industrial.

Instruction in music is furnished free, under the direction of the professor in charge, to all pupils in the College, as follows:

1. **Singing, Notation, and Theory.** Classes will be organized at such periods as will best accommodate the pupils interested.

2. **Instrumental Music, Musical Theory, and Harmony.** Classes will be organized, for pupils in the regular courses, at such periods as will best accommodate them, under the following conditions:

a. **Optional.** All music is optional—is taken at the choice of the student—but after assignment regular attendance is required, as at other classes. Class organization shall be wholly under the control of the professor of music.

b. **Musical Organizations.** Each instrument has a distinct function in the science of tonal expression, and only in their combination are the finest effects in the coloring of the melody, harmony and rhythm procured. This combination is made possible in the musical department by the number of pupils and the variety of instruments studied. All students who are sufficiently advanced to join the College glee club, College orchestra, mandolin, guitar and banjo club, elementary band, or the College band, may become members by assignment.

c. **Public Exercises.** Music for commencement week and other public College exercises is furnished by the musical department, under the direction of the professor in charge, and all students in the department shall be subject to his call to assist in furnishing the same.

Uniforms. Members of the College band are required to present themselves in uniform, which is inexpensive, within ten days after assignment. The following is a description of the uniform: This suit to consist of the new regulation musician's cap, with embroidered ornament, wreath, and lyre; blue blouse, cut and trimmed in officer's style, lyre one inch high on collar, with shoulder knots; gray trousers, trimmed with red stripes.

COURSES OFFERED.

The Voice. In the study of this instrument, the most natural and universal means of musical expression, notation is taught in connection with the establishment of a pure tone, in which there shall be resonance, volume, flexibility, and expression. The instruction will include the rudiments of music, notation, sight-reading, ear-training, theory, harmony, voice culture, methods of teaching, practice in teaching, and drill in solo, quartet and chorus singing. Texts: Brown's Elementary Charts, Emery's Elements of Harmony, Weitzman's Theory, Randegger's Singing; select studies from Concone, Vaccai, Bordogni, Marchesi, and other standard works.

The Piano. In the study of this instrument, which occupies a place of so much dignity and importance in every musical education, great attention is given to every detail of technique and to the development of a correct touch, which is so necessary in giving intelligent expression to musical thought and feeling. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. The curriculum is chosen from the works of the standard composers, not omitting modern European and American writers, who best represent the modern spirit and progress. The following outline of a course of study, made with reference to the musical value of the selections, as well as to the special necessities of the pupils, may be followed or varied by the professor in charge. Text, selections from the following works or their equivalents: Studies in position and touch—Plaidy, Czerny, Koehler, Mathew's Standard Studies; Mason's Touch and Technic; sonatinas by Clementi; modern pieces. Studies in the development of technique from Heller, Loeschhorn, Lemoine; sonatinas by Kuhlau; Mason's Touch and Technic; Cramer's Studies; inventions by Bach; Kullak's Preparatory Octave School; etudes by Moscheles; sonatas by Mozart; Beethoven; modern pieces; Kullak's Octave School; Tausig's Daily Studies; Bach's Preludes and Fugues; concert pieces by Liszt; Schumann. Memorizing.

The Cabinet and Pedal Organ. The cabinet organ has a field of its own, and should have appropriate treatment, in many respects different from the piano. When properly played it is of much value in church and social circles. It is here taught so as to be preparatory to the piano, the pedal- and pipe-organ. Text, standard schools. Selected studies and pedal studies, chorals, hymns, and recreations suitable to the instrument.

The Violin. Particular attention is given to correct position, intonation, and bowing; also to solo and orchestral playing. Text, selections from the following works or their equivalents: Methods by Wichtl, Henning, and De Beriot; exercises by Danca, Pleyel, Schradick, Kayser, David, and easy solos; etudes of Kreutzer; solos by De Beriot, Leonard, Dancla, Singelee; modern pieces. Memorizing.

Orchestral and Band Instruments. Similar courses of instruction are given on all the more important orchestral and band instruments—string, wood, wind, and bass; also mandolin and guitar. Opportunities are also furnished advanced pupils for orchestral, band, quartet and accompaniment playing. Text, selections from the standard methods; studies and recreations suitable to the instrument.

Musical Theory, Composition, Instrumentation, and History of Music. The aim of these courses is to give the pupil an intelligent conception of music as a science and an art, and to lay a foundation for later studies which he may undertake in the field of artistic performance and original work in musical composition. The instruction given includes theory, notation, harmony, counterpoint, composition, instrumentation, analysis of form and style, and musical history. Texts: Elson's Theory of Music, Brown's Prismatic Charts, Berlioz's Orchestration, Marx's Composition, Prout's Instrumentation, Mathew's History of Music.

Philosophy.

To be able to grapple most advantageously with the serious problems of life, one must have an intimate acquaintance with himself. To be able to become a valuable member of society, he must know how to develop and use his mental powers judiciously. Too many people are inclined to regard their mental activities as a sort of fixed inheritance, with little or no possibility of readjustment. It is the aim of this department to interest the student in a more careful study of the mental phases of human life, and to aid him in a more definite and systematic knowledge of the meaning of his own concrete experiences.

The several subjects are offered as follows: No. 1 is required in all courses; No. 2, in the general science course; and No. 3, in domestic science and general science courses.

1. **Elementary Psychology.** First year, winter term. This course is intended to give the student (*a*) a general idea of the meaning of psychology, and (*b*) a better method of expending his time and energies in the pursuit of college work. Not less than ten lectures will be given, as follows: (1) Neural basis of mind, (2) perception, (3) imagination, (4) memory, (5) habit, (6) thinking, (7) the emotions, (8) the will, (9) self-confidence, (10) methods of study and work. No text-book used.

2. **Logic.** Fourth year, fall term. While formal or deductive logic is studied briefly, the greatest emphasis is placed upon the inductive phase of the subject. Special prominence is given to methods of exact observation and experiment and correct principles of classification. The previous researches and experiences of the students are made to illustrate these principles. Some of the ends sought are: (1) To enable the student to think more clearly and to express his thoughts more lucidly; (2) to enable him more readily to detect the erroneous statements of others, whether made by design or through ignorance; (3) to imbue himself more fully with the scientific spirit, which is the guiding principle of human progress to-day; (4) to lead him into habits of systematic, scientific methods of work in whatever vocation he may follow during later life. Text-book, Creighton.

3. **Psychology.** Fourth year, winter or spring term. An effort is made to master the general principles of the subject, the various mental processes being analyzed and explained. Some attention is also given to theories of right and wrong and correct principles of action. Considerable time is given to the discussion of mental poise, self-control, emotional expression, the influence of the mind on the body, and the like. Special effort is made to enable the student to get the psychologic point of view, to the end that he may obtain a better understanding of himself and of human nature in general. He will then think of others in terms of mental conduct rather than in terms of physical conduct; and, having been made more fully aware of the obstacles that confront every earnest soul, he will become more sympathetic. Finally, as a result of systematic mental discipline, the student may expect to meet with greater success in his chosen vocation. Some simple experiments are performed, and each member of the class is given a topic for special research. Text-book, James.

ELECTIVES.

4. **Ethics.** In this brief course the aim will be: (1) To make a brief historical review of the several types of ethical theory; (2) to examine more critically the two great tendencies of the subject, viz., the hedonistic and the idealistic; (3) to arrive finally, if possible, at a working ideal on the subject of moral conduct.

5. **Pedagogy.** It has been found that a considerable number of the graduates of this College become public-school teachers. An act of the legislature grants to such graduates a three-year state certificate, renewable for life, provided they pass an examination in the so-called professional branches. These are given, as follows: History of education and school law, fall term; philosophy of education, winter term; methods and management, spring term.

Physical Training.

The maintenance of robust health and a good constitution should be one of the chief aims of every girl. It is impossible to cultivate the body without benefit to the mind; likewise, in order to cultivate the mind properly one should learn to care for the body. With this end in view a gymnasium for women has been provided. It is well equipped with apparatus, shower-baths, lockers, etc., and a well-regulated system of physical training is in successful operation.

The Swedish system of educational gymnastics is used as the basis of the work, while other systems are used in connection with it. Corrective and medical gymnastics are given to such as need them. The primary object of the work is to promote health, strength and symmetry of the body and to correct physical defects.

WOMEN'S GYMNASIUM.

Daily classes are held in light gymnastics—free standing work, marching, fancy steps, drills with dumb-bells, wands, and Indian clubs, with musical accompaniment; heavy gymnastics, including horse, parallel bars, chest weights, flying ring, ladder, stall bars, climbing ropes, and horizontal bar. Gymnastic games, including tennis and basket-ball, are taught to those who care to learn. When the weather permits, exercises are taken in the open air.

All young women of the College have access to the privileges of the gymnasium, while those below the third year must elect physical training or music. Before entering upon the work, a physical examination is made by the director. The examination includes measurements of physical proportions, and takes note of the condition of the heart and lungs. From this examination an anthropometric chart is platted, showing size, strength, and development, and defects in comparison with the normal standard. Frequent measurements are taken and comparisons made to show effects of training.

A uniform suit has been adopted, which all the girls taking gymnasium work are required to provide themselves with. This should be done before entering school. The suit is black, and consists of a blouse waist and bloomers, and must be made in the uniform style, color, and cloth. The pattern for the suit may be obtained by sending twenty-five cents and bust measure to the director of physical training. Samples of cloth will be sent on application. Gymnasium shoes may be purchased at prices ranging from fifty cents to one dollar thirty-five cents. The entire suit, including shoes, need not cost more than three dollars. Those who are unable to provide themselves with suits before entering school may hire them made in Manhattan, at a cost of one dollar and fifty cents.

Physics and Electrical Engineering.

In the following courses instruction is given by text-books, lectures, and laboratory work. The treatment is both theoretical and practical. Recitations and lectures are illustrated by means of apparatus and the projection lantern. The purpose of the general course in physics is to lay a thorough foundation in the fundamental principles of physical science and in the theory and practice of precise measurement. The physical laboratories are large, well lighted, and equipped with the necessary apparatus for both the elementary and advanced laboratory courses.

ADVANCED PHYSICS LABORATORY.

The course in electrical engineering is designed to provide the necessary preparation for young men who desire to engage in the practical work of electrical engineering. The theoretical work begins in the third year, with course No. 3 in physics. An extended course in laboratory work is given, covering the subject of electrical measurements, and prepares for the work of the fourth year in the dynamo laboratory. The electrical and dynamo laboratories are well equipped with high-grade apparatus and machinery, and afford every opportunity for a thorough preparation for practical work in electrical engineering.

Of the studies described, No. 1 is required in all courses; Nos. 4 and 5, in the general science and agriculture courses; Nos. 2 and 3, in the mechanical engineering course; Nos. 2, 3, 6, 7, 8, 9, 10, and 11, in the electrical engineering course.

1. **Elementary Physics.** First year, spring term. The work is intended to give the student a general view of the subject, with such laws and principles as will be useful in scientific study, and includes the most important principles of mechanics, heat, sound, light, and electricity. Text-book, Henderson and Woodhull.

Laboratory.—In this work the importance of accurate observation and conclusions is emphasized. In the laboratory the exercises will consist of measurements with calipers, balances, spherometers, micrometer-mioroscope, pendulum, and other instruments of like nature. Careful records of experimental work are required.

2. **Physics I.** Third year, fall term. During the term's work the general principles of heat and sound are treated, and the most approved methods for the measurement of each will be discussed and illustrated. The derivation of laws and formulæ, including the solution of problems involving these laws, will be required. Text-book, Watson.

Laboratory.—Experiments with the principal instruments used in exact measurement. This work is intended to give the student skill in the manipulation of instruments, in the interpretation and reduction of results, and in the use of data in curve-tracing.

3. **Physics II.** Third year, winter term. The first half of the term is devoted to the subject of light. In this subject it is the purpose to develop the modern theory of light and its special applicatibn to refined physical measurements. The last half of the term is devoted to the subject of electricity. The fundamental laws of current, resistance and potential are developed, and the various methods and instruments by which they are measured and discussed. Use and care of batteries, electric wiring for lighting, telephone and bell circuits, wire inspection according to underwriters' rules.

Laboratory.—This work is designed to give the practical application of the laws of optics, the use and adjustment of surveying instruments and telescopes, lens testing, spectrometry. In electrical measurements, it consists of the measurement of resistance and current, and the calibration of instruments. Every opportunity is given to become familiar with the electric current and the proper use and care of electrical instruments.

4. **Physics III.** Third year, winter term; and fourth year, fall term. A thorough study of the laws of forces and motion. Composition of forces and velocities by graphic and trigonometic solutions. Nature of sound; its wave motion and velocity; the factors that will change the velocity, and the phenomena produced by its reflection. Thermometry, calorimetry, the laws of radiation, and the absorption of heat. Text-book, Hastings and Beach.

Laboratory.—This work will be of such nature as to give students an opportunity to make experimental tests of the laws in the subjects discussed in the classroom.

5. **Physics IV.** Third year, spring term; and fourth year, winter term. Electricity, magnetism, and light. This course is intended to give the student a historical review of the development of electricity and magnetism. The methods of measuring current and resistance will be discussed and illustrated.. The solution of problems involving the laws derived in the classroom is required. Nature

of light; laws of reflection and refraction. Construction of images in plane, concave and convex mirrors. Diffraction and interference. Text-book, Hastings and Beach.

Laboratory.—This work will include measurement of resistance, current, and potential; electrolysis, magnifying power of lenses, focal lengths, photometry, etc.

6. **Theory of Electricity.** Third year, spring term. Physics is begun in the fall term. The following subjects are treated: Current electricity, potential, resistance, quantity, theory of electrical measurements, induction, hysteresis, use of condensers, electrochemistry, elementary principles of the dynamo and motor, the ballistic galvanometer, Carey-Foster bridge, the various methods for the measurements of high resistances, calibration of commercial voltmeters and ammeters, the storage battery, etc. This course is, in many respects, the most important for the engineer, as it prepares the way for the more advanced work of the fourth year and affords every opportunity for exact measurement and mathematical treatment. Text book, S. P. Thompson's Elementary Lessons in Electricity and Magnetism.

Laboratory.—It is the purpose of the laboratory course to continue the work of the classroom in the practical application of the principles and methods developed, the experiments being arranged to follow closely the theoretical development of the subject. The experiments include the measurement of current, potential, resistance, quantity, hysteresis, cable-testing, calibration of instruments, photometric tests of arc and incandescent lamps, use of Carey-Foster bridge, battery tests, etc. Especial emphasis is laid on curve drawing and the interpretation of laboratory results. A number of reference books are used in this course.

7. **Direct-current Machinery.** Fourth year, fall and winter terms. A continuation of the course in theory of electricity, including a detailed study of the principles of direct-current machinery, laws of magnetic circuits, the various types of machines and their characteristics, a study of efficiency and regulation, elements of design, the various methods of connecting for output and regulation, management, care and installation of machines. Text-book, Jackson's Electromagnetism and Construction of Dynamos.

Laboratory.—This course is designed to give familiarity with modern station practice. The laboratory is well equipped with one or more standard types of motors, dynamos, rotary converters, transformers, alternators, constant current transformers, arc and incandescent lamps, and the necessary alternating and direct-current measuring instruments. An extended study is made of direct-current machines and auxiliaries, curve plotting, tracing of EMF and current curves of the various types of machines, photometric measurements of arc and incandescent lamps, various methods of determining efficiencies of motors and dynamos, machine characteristics, regulation, etc. The College and local plants offer additional opportunities for practical work. Courses of reading along the different lines of study are required.

8. **Alternating-current Machinery.** Fourth year, spring term. The theory of alternating currents, the production of alternating electromotive forces, impedence, capacity and inductance in alternating-current circuits, measurement of power, the calculation of currents in reactive circuits, polyphase generators, induction motors, starting devices, transformers, etc. Text-book, Sheldon and Mason's Alternating-current Machines.

Laboratory.—Attention is given in this course to the work of testing transformers, alternators, rotary converters, induction motors, enclosed alternating arcs, and the various subjects taken up in classroom discussion.

9. **Dynamo Design.** Fourth year, winter term. In this course each student is required to make the necessary calculations and working-drawings of such parts or mechanisms of electric machinery as may be assigned to him; the work to be based upon classroom discussions.

10. **Power Stations.** Fourth year, spring term. The work in this course is based on Bell's Power Transmission, supplemented by lectures and inspection visits. The treatment includes discussion of station design, methods of power transmission, electric traction, systems of distribution, station management, etc. Text-book, Bell's Power Transmission.

11. **Electrochemistry.** Fourth year, fall term. This course will consist chiefly of a study of the processes employed in electro-metallurgy and the electrochemical industries, the production of electrolytic copper, carborundum, etc. Such experimental work will be provided as the equipment of the laboratory will permit.

12. **Advanced Course in Physics.** Work in advance of the courses required of undergraduates will be offered to students who have completed the work in courses 1, 2, and 3, or the equivalent. The work will be largely of an experimental nature, with collateral reading and lecture work. While the student will work more or less independently, the course will be outlined and will be checked by the instructor in charge. Advanced problems in mechanics, heat, light and electricity will be taken up, and every opportunity offered to acquaint the student with the use of standard instruments in physical measurements. The course is especially adapted to accompany work in advanced chemistry, mathematics, or the needs of those intending to teach physics.

Preparatory Department.

Inasmuch as many students seek admission to the College with inadequate preparation in one or more of the subjects required for entrance, it has been found necessary to establish a preparatory department, in which such deficiencies can be remedied. Instruction is given in all studies required for admission to the College. See "Terms of Admission."

1. **Arithmetic.** Instruction is given in the principles that underlie the various classes of problems, thus teaching the student to rely upon himself, not upon rules. Text, state book.

2. **Algebra I.** This includes the fundamental operations, factoring, highest common divisor, lowest common multiple, and fractions. State text.

3. **Algebra II.** Simple equations, involution, evolution, theory of exponents, and radicals as far as the subject of quadratic equations.

4. **Algebra III.** Quadratic equations, ratio and proportion, arithmetical and geometrical progressions.

5. **Bookkeeping.** This is not an extended course, but sufficient instruction is given to enable the individual to open and close accounts in ordinary business transactions. State text.

6. **English Grammar.** The aim is to lay a good foundation for the further study of English. Recognizing the fact that grammatical drill develops in students logical habits of thought, besides giving them greater command of language, special attention is given to the analysis and construction of sentences and to the principles of elementary composition. Two classes are formed each term, the B class completing the work in two terms; the A class in one term. Text, Longmans.

7. **Advanced Grammar.** One term. A review of the principles of grammar as preliminary to the College requirements in English. Practice in grammatical analysis of difficult sentences and of extended passages of literature. Also a study of the etymology of derivative words, of synonyms, of the uses of words, and of the principles of sentence structure, with practical exercises in word analysis.

8. **English Readings.** As a prerequisite to admission to the College classes in English, a careful study is made of a number of standard productions of first-class interest and easy style. Sketches of authors, both oral and written, character sketches, abstracts, outlines and analyses of every production are required. As these productions are mostly read and discussed in class, opportunity is afforded for considerable valuable training in pronunciation and effective reading.

List of Readings.—Shakspere's Julius Cæsar; Irving's Sketch Book; Burns's Representative Poems; Tennyson's Idylls of the King; George Eliot's Silas Marner; Matthew Arnold's Sohrab and Rustum; Shakspere's Macbeth.

9. **English Composition.** One term. The work is based on Smith and Thomas's Composition and Rhetoric. The text is completed to chapter XIII, with the addition of chapter XIX and the appendix, special attention being given to the study of usage and diction. The object of the work of this term is to give the student a knowledge of the elementary principles of composition, to improve his vocabulary, and to help him overcome the fear of expressing himself in writing. To this end he is encouraged to choose subjects that spring from his own experience or observation, and is required to present one theme each week, which, after being read before the class, receives corrections from the instructor in charge.

10. **United States History.** The leading facts, causes and sequences showing the growth of our country and national history are studied with a view to develop true patriotism. Text, McLaughlin.

11. **Ancient History.** This course is introduced by a brief study of Egypt, the Hebrews, and other oriental nations. The history of Greece is followed from its prehistoric traditions to its conquest by Rome, 146 B. C. The Persian and Peloponnesian wars must be studied, but the emphasis is laid rather on the life and government of the people in their city-states, on the age of Pericles, and the art, literature and philosophy of the Greeks. Alexander the Great is studied, not so much for his military achievements, but rather as the disseminator of Greek civilization. The last half of the term is devoted to Roman history. The growth of the nation is followed, from the founding of the city till the great republic surrounded the Mediterranean and embraced practically all of the known world. The story of the Punic wars is, of course, included. The Romanizing of Europe; the reason for the change from republic to empire, and the method of its accomplishment; Rome's contribution to civilization, such as her roads and her laws; the origin of the Christian church; the Augustan age, and the lasting impression

that five hundred years of world empire made on mankind are among the points emphasized. An attempt is made to acquire some familiarity with the great personages, such as Pericles and Cæsar, who played their part in the ancient world. Text, Myers's Ancient History, edition of 1904.

12. **The Middle Ages.** This course begins with the fall of Rome and the migration of the Teutonic tribes, thus discovering the very beginnings of the present European nationalities and languages. The work of Charlemagne; feudalism; the Christian church and monasticism; Mohammedanism; the achievements of the Northmen; the hundred years' war; the crusades; the formation of modern governments; the Italian cities, and the renaissance, are among the subjects studied. Special emphasis is given to the history of England and the rise and power of the medieval church. Text, Myers's The Middle Ages, revised edition.

13. **Physiology.** This is elementary work, intended to prepare students for the more advanced work given in second year of the agriculture, domestic science and general science courses. As far as possible, models, skeletons and dissecting material are made use of in the classroom. Martin's Elementary Physiology is used as a text.

14. **Geography.** Because of recent history, special attention is paid to the geography of the United States, its possessions, products, resources, methods of transportation, etc. Text, state book.

15. **Physical Geography.** Two terms. This subject considers the conformation of the earth's surface, the distribution of land and water, minerals, plants, animals, productions, the atmosphere and the ocean with reference to man's physical environment. These features are presented so as to show in what manner they affect man's way of living and how nature has guided in the development of mankind. State text.

16. **Botany.** The object of the course is to acquaint the young student with the primary essential facts in the life and growth of plants; to enable him to see how plants work and live, and upon what things, in the external world, they depend. As much knowledge of plant structure is required as will render the working processss clear. Practical studies are followed out in such problems as germination and growth, in the uses of the different plant organs, in respiration, transpiration, carbon assimilation, storage and transport of food, building up of tissue, etc. The effects are studied of unfavorable conditions, such as drought, freezing, lack of sunlight, etc. The different ways in which plants increase are examined, and the manner in which they struggle for possession of the soil. In general, in this course, the seed plants are chiefly employed for illustration and experiment, but the other great groups are freely drawn upon, and the general way in which the different groups are related to one another is shown in an elementary manner. Text-book to be selected.

17. **Other Branches of Study.** Instruction is also given in spelling, reading, and writing.

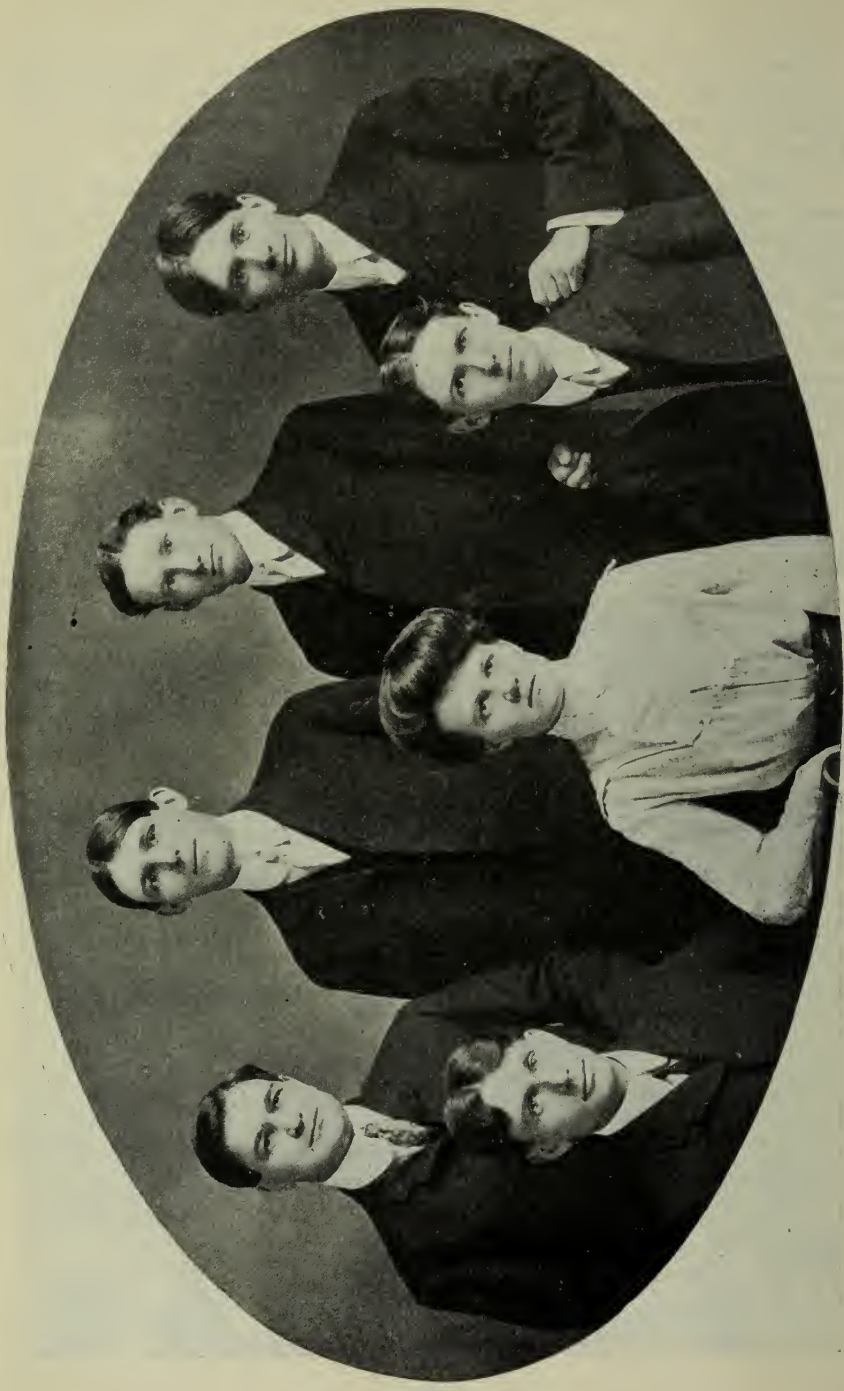
Printing.

The printing department, in the main building, occupies six large rooms, viz.: Superintendent's office, composing-room, pressroom, folding-room or bindery, mailing-room, and storeroom—all well lighted, amply ventilated, and heated by steam.

1. **Instruction.** The lessons embraced may be briefly summarized under these suggestive topics: The elements of news, book and job composition and imposition; proof-reading and correcting; plain and color presswork; embossing; adaptation of various grades of inks and papers; newspaper and magazine folding; mailing; tableting of stationery; and pamphlet stitching and stapling. The instruction is of that character in which individual advancement is always taken into account, and opportunity is extended for individual growth in the knowledge of those principles which are of practical utility in the every-day work of a printing-office. Occasion for the gaining of experience and acquirement of skill is supplied by the weekly publication of the *Industrialist*, the *Students' Herald*, and the monthly *Jayhawker*—all in magazine form; the execution of the wide range of job-printing needed to furnish the various College departments with blanks, lesson outlines, and stationery, and the College societies with programs, notices, etc.—thus furnishing a greater range of work for instruction than is ordinarily found in the average printing-office.

2. **Equipment.** Forty cases of six-point, eight-point and ten-point body type and italics; an assortment of wood and metal job type and brass rule; a Babcock two-revolution, four-roller "Optimus," quarto medium and eighth-medium Gordon job-presses, and a Monitor wire-stitcher—all run by electricity; type-high, mitering, rule-curving and stapling machines; paper-cutter, cabinets, stands, imposing-stones, etc.

DAIRY LABORATORY.



JAYHAWKER STAFF.

Public Speaking.

There is perhaps no study of wider application and of more immediate benefit to the student than that of vocal expression. It helps him in his other studies. Every recitation affords him an opportunity of practically applying the rules and principles of correct expression, and, what is of still greater value to him, he soon discovers for himself the fundamental principle that proper expression is always the result of a thorough comprehension of the thought. Shallowness and inaccuracy are almost wholly due to defective reading. For this reason, students are encouraged to form the habit of mentally paraphrasing whatever they read, to the end that they may grasp every detail, relationship, contrast and purpose contained in the subject-matter. This habit, when formed, leads to accuracy of scholarship in any line.

It is not intended that this department should offer an extended course in elocution. There is no intention of fitting students for the stage or platform as professional readers. It may be safely affirmed, however, that the course here offered, taken in conjunction with correlated subjects in the department of English, will prepare the student in this line for all the ordinary demands of an active and useful career.

1. **Public Speaking I.** Second year. Required in all courses. The work in this course is largely analytic. A critical study of the four general types of utterance. Paraphrasing as a preparation for expression. The principle of grouping. Musical properties of speech. Practice in literary and expressional criticism. Carefully selected exercises in vocal technique are given throughout the course. Lessons are assigned, prepared and recited as definitely as in any other study. Text-book, Vocal Expression and Literary Interpretation, part I.

2. **Public Speaking II.** Second year. Required in all courses. In this course the work is synthetic. The principles of vocal expression as studied in part I are here applied to literary wholes. Studies in formulation, discrimination, emotion, and volition. The principle of unity and the laws of movement, principality, contrast and climax are studied and applied to numerous selections from standard literature. Studies in tone color, transitions, and descriptive gesture. The purpose is to cultivate taste, judgment and facility in the art of expression. Instruction is based on Vocal Expression and Literary Interpretation, part II.

3. **Public Readings.** Second and third years. Required in all courses. The instruction in this course is individual and consists of private rehearsals. Each student is required to appear in public at least once a year. For this purpose all sophomores, juniors and seniors are assembled in chapel every Saturday afternoon throughout the year.

4. **Orations.** Each senior student is required to prepare an oration for public delivery. These productions must meet all prescribed requirements, be rehearsed, and delivered as outlined in No. 3. By special arrangement, credits in public readings and orations may be obtained for equivalent work done in any of the College literary societies.

Veterinary Science, Physiology, and Bacteriology.

The course in veterinary science is not intended for the training of veterinarians, but to meet the needs of farmers and stockmen in the line of practical nursing, minor surgery, the use of domestic remedies, and a general knowledge of diseases of animals and how they can be prevented.

In physiology, it is the aim to give a thorough knowledge of the structure and functions of the human body and a clear understanding of the laws which are essential to its healthy development and preservation. So far as practicable, this course is preparatory to work in veterinary science and zoology.

In bacteriology, the student is given a thorough and practical knowledge of bacteria, those that are beneficial as well as those that are injurious, and the various methods by which they can be controlled.

Nos. 1 and 2 are required in the agriculture, domestic science and general science courses; No. 3 is required in the agriculture course.

1. **Physiology.** Second year, winter or spring term. Advanced course in human anatomy and physiology; the gross and microscopic structure of the various tissues and organs of the body and their functions; the various changes, physical and chemical, associated with nutrition, and the conditions that favor the healthy development of the body. Martin's Human Body is used as a text-book. This is supplemented by lectures and laboratory work. This must be preceded by elementary physiology, chemistry I, and elementary physics.

2. **Bacteriology.** Third year, fall, winter or spring term. These courses consist of the morphology, classification and physiology of bacteria; relation of external conditions to bacterial development; disinfectants and disinfecting; bacteriological technique, preparation of culture media, staining, isolating and identifying bacteria; general fermentation, putrefaction, and decay; bacterial action on foods, nitrification, ptomains, toxins, and other bacterial products; hygiene of infective diseases; the preparation and use of antitoxins and vaccines.

The students of all courses are required to take laboratory work, in which they study cultural and microscopical features; the staining of bacteria and preparation of culture media; thus the student becomes perfectly familiar with bacteriological apparatus. Must be preceded by advanced physiology and zoology. Lectures and laboratory work.

3. **Veterinary Science.** Third year, fall term. Comparative anatomy and physiology, with special reference to disease; hygiene of farm animals; nursing; general symptoms and causes of disease; contagious diseases, disinfection, quarantine, and vaccination; parasitic diseases; injurious foods; common diseases of farm animals, with symptoms and treatment; surgery and treatment of wounds; veterinary obstetrics and dentistry. Must be preceded by advanced physiology and chemistry. Text-book, Care of Animals, Mayo. Advanced veterinary science and bacteriology are offered as electives in the fourth year.

MEANS OF ILLUSTRATION.

In addition to the stock upon the College farm, the veterinary museum contains Azoux models of man and horse which are dissectible; also, apparatus, instruments, charts, models, and an excellent collection of parasites of domestic animals. There is also a large collection of anatomic specimens, showing healthy and diseased structures. The bacteriological laboratory is well equipped with microscopes and apparatus for bacteriological work, both elementry and advanced.

The Short Courses.

There are large numbers of young people who from lack of means or time are unable to take an extended course of study, but whose usefulness in the world would be much increased by a little special training. Their earning capacity in the household or on the farm is far from what it might be, and they are thus handicapped in the struggle for a livelihood. To bring to this large portion of the "industrial classes," even in small measure, the "liberal and practical education" provided for by the organic act, the College has established certain short courses of study, with practice.

The teaching in these courses, while no whit less accurate than in the others, is upon a different plane. Taking students without scientific or mathematical training, the instruction must be more largely a giving of facts, without an elaboration of the underlying principles which the regular courses afford. The work is intensely practical. Studying such texts as any bright young man or woman can understand, receiving lectures of the same type, and putting into daily practice through industrial exercises the facts and principles learned in the classroom, the student cannot but be greatly benefited. It is hoped, too, that in many cases young people who had thought that they could not afford a four-year course will, by this taste of the advantages and pleasures of an education, be led into the regular courses.

These courses are put at the seasons of the year which seem likely to accommodate the most students, those for young men being given in the winter term, when farm work is more slack, and the young women's course being in the fall. Four such courses are now offered A dairy course of one winter term; a domestic science course of two fall terms; a farmers' course of two winter terms, and a farm dairy coures of one winter term.

Requirements for Admission.

Persons at least eighteen years of age and of good moral character are admitted to these courses as follows:

Persons between the ages of eighteen and twenty-one will be admitted upon presentation of common-school diploma, grammar-school certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading, writing, spelling, arithmetic, grammar, geography, physiology, and United States history. Persons over twenty-one will be admitted without examina-

tion, but should have sufficient education to enable them to understand the simple text-books used, and to handle readily problems in common and decimal fractions and percentage. They will be required to attend strictly and constantly to their duties, or leave. They have the same free use of the College library that other students have. Owing to the peculiar nature of the work and to the slight degree of preparation which it assumes, *students are required to be present at the very beginning of the course, and those applying later will not be admitted.*

The short courses are in no sense equivalent to the long courses, and no one should take a short course who can take a whole or even a part of one of the long courses. All of the common-school preparatory and freshman branches are taught each term; and nearly all of sophomore studies are taught each term; so that it is possible for one to get nearly all subjects of the first two years by attending during the winter terms only.

Domestic Science Short Course.

First Year, Fall Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Lectures and Practice in Cooking	15
Sewing	15
Drawing	5

Second Year, Fall Term, Twelve Weeks.

Lectures and Practice in Cooking	8
Home Nursing	2
Physiology and Hygiene	5
Vegetable gardening and Floriculture	5
Dressmaking	10

First Year.

Lectures and Practice in Cooking. The study of stoves, stove construction, management and fuels are the first topics considered, followed by experiments illustrating the effect of heat upon starch and proteid. The principles are then applied to the cookery of cereals, vegetables, beverages, breads, meats, soups, and simple cake mixtures and puddings. During the term lectures are given by the departments of chemistry and physics illustrating the application of a few fundamental scientific principles to cookery. At stated intervals lectures are also given on home sanitation and household accounts.

Sewing. Pupil makes a model book covering the full course in hand sewing, and consisting of basting, gathering, darning, patching, etc. Machine practice, drafting, cutting and making underskirt and drawers; drafting, fitting and making dress without lining; cutting and making corset cover and night-dress. Materials for the model work will be furnished by the College. Each pupil will furnish her own material for the garments, but if sufficient proficiency is shown in making the first garment, pupils may be allowed to take orders for the others.

Drawing. The work in drawing is especially adapted to the needs of this class of students; it will consist of free-hand and geometrical drawing.

Second Year.

Lectures and Practice in Cooking. Canning, preserving, salads, cakes, pastries, desserts, the planning and serving of meals and invalid cooking are topics considered, accompanied by lectures from the departments of chemistry and physics.

Home Nursing. This implies simple suggestions for the sick-room and its furnishings, and means of adding to the comfort of the sick.

Physiology and Hygiene. Physiology and hygiene of the human body, laws of health, and care of the sick.

Vegetable-gardening and Floriculture. The first half of the term is devoted to vegetable-growing. Subjects treated include the raising of vegetables for home and for market, with location, soils, manure, tools, irrigation, etc., best suited for crops grown in kitchen- and market gardens; the construction and manipulation of hotbeds, cold-frames, and winter gardens; the growing of early and late crops, their special treatment, methods of cultivation, planting, transplanting, harvesting, and marketing; a study of varieties suitable to local conditions; and the origin, nature and methods of improvement of vegetables. The last half of the term is devoted to floriculture. Lectures in the classroom are supplemented by practical exercises in the greenhouses and gardens, treating of the propagation and culture of flowers, including the treatment of seeds, cuttings, mixing of soils, potting, repotting, watering, cut flowers, packing, and the many operations that attend amateur and commercial flower-gardening.

Dressmaking. Pupil will be taught the use of a dress-cutting system, cutting, fitting and making woolen dress. Pupil must furnish her own material, and cut and make a dress for herself.

KITCHEN LABORATORY.

Farmers' Short Course.

First Year, Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Horticulture	5
Carpentry	5

Second Year, Winter Term, Twelve Weeks.

Botany	5
Elementary Physics	5
Farm Mechanics and Management	5
Diseases of Farm Animals	5
Grain Judging	5
Blacksmithing or *Traction-engines*	5

First Year.

Crop Production. A study of the soil—its formation, types or classes, composition, characteristics, uses, physical characters, texture, purposes and problems of tillage, conserving soil moisture, warming, ventilating and draining the soil. The implements of tillage, principles involved in their construction and use. A study of the plant—its relation to soil and climate; its life, growth and propagation; its root system, principles of seed selection, preparation of seed-bed, methods of cultivation, etc. The fertility of the soil, tillage, manures, fertilizers, and rotation of crops. A study of crops by classes and varieties, as grains, grasses, corn, forage, silage, soiling and root crops; practical methods of culture—saving, feeding and marketing. Text-book, Bailey's Principles of Agriculture.

Feeds and Feeding. The properties of feed stuffs, and their combination to secure good returns at least cost with products having the desired qualities; effect of feeds on quality of products; construction of farm buildings and appliances to secure the best returns from feed and for saving labor; a study of the feeding on the College farm. Text-book, Henry's Feeds and Feeding.

Breeds of Live Stock. A study of the market types of live stock; history and characteristics and adaptability of the breeds of live stock; selection and judging of live stock according to the official standards; forms as an index to qualities; practice in tracing out pedigrees. Text-books, Shaw's Breeds of Live Stock, Craig's Stock Judging.

Stock Judging. Practice work. Practice in judging chickens, beef cattle, dairy cattle, hogs, horses and sheep according to official standards.

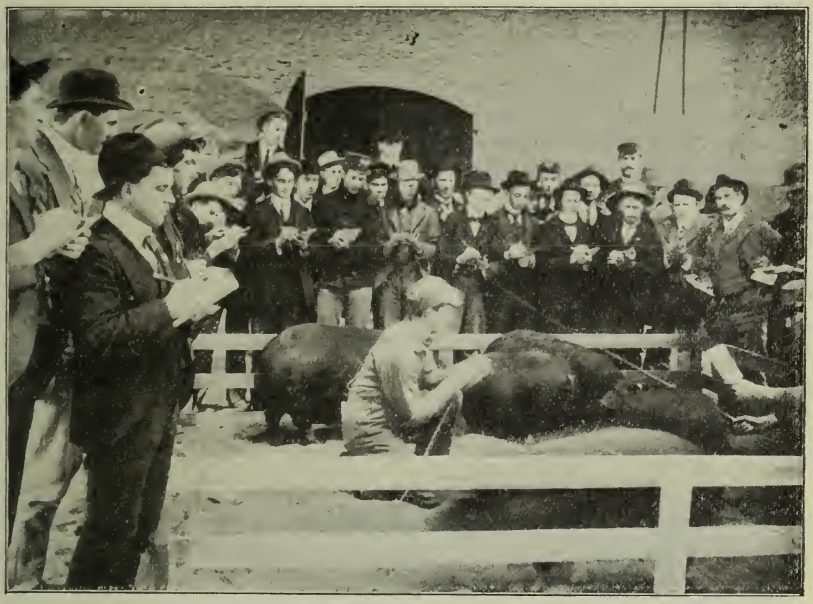
Horticulture. General principles underlying plant growth; structure and functions of the various parts of the plants; nutrition, formation of seeds, etc.; propagation by seedage, cuttage, graftage, and layerage; environment, including the effects of temperature, light, food- and water-supply; possibilities of improvement by cultivation, training, and selection. Text-book, Goff's Principles of Plant Culture.

Carpentry. Elementary woodwork in joinery and construction, followed by general woodwork and carpentry; care and use of farm machinery; the building of frame structures, such as stables, piggeries, poultry-houses, ice-houses, and farm creameries, will be given, both by lectures and practical work.

Second Year.

Botany. The laws of plant growth which have a direct bearing upon the raising of grasses, grains, clovers, forage-plants and weeds; a study of the common fungi that affect cultivated plants; seed-testing; practical methods of farm seed-breeding.

Elementary Physics. This course is designed to give the student a knowledge of the fundamental principles upon which the various physical phenomena depend. The course does not provide laboratory practice. Numerous class demonstrations illustrate the various subjects of mechanics, hydrostatics, heat, light, sound, etc.



SWINE JUDGING.

Farm Mechanics and Farm Management. The first half of the term will be devoted to rural engineering and farm machinery, and will include laying out of the farm, as regards the selecting of building sites, location of farm buildings, division of the farm into fields, and plans for crop rotation; the construction of buildings and works as to principles of construction, plans, specifications, and estimates of the cost of farm buildings, and the water-supply, sewerage, drainage, roads, fences, etc.

Several lectures will be devoted to the elements of machines, disclosing the principles involved in the use of the lever, evener, wheel and axle, pulley, inclined plane, screw, and wedge. The several classes of farm machinery will be taken up in their order and studied as to the principles of construction and use of each machine, and attention will be given to the operation, care and repairing of farm machinery, and to the building of machinery sheds.

During the latter half of the term, instruction and practice work will be given in keeping farm accounts, and in the application of business methods to farm operations. Economic questions relating to the employment and management of

farm help, outlay for farm equipment, buildings, and improvements, the buying of machinery and marketing of crops will receive attention. Some instruction will be given in simple questions of rural law, relating to property, deeds, leases, contracts, water rights, line fences, notes, bills of sale, mortgages, interest, taxes, etc. Text-book, Robert's Farmers' Business Handbook.

Diseases of Farm Animals. The common ailments of farm animals are discussed, their causes and symptoms explained, and preventives and remedies suggested. Inoculation against blackleg will be performed by the student in this course.

Grain Judging. This will be a continuation of the study of crop production, and will consist mainly of work in the judging-room, in scoring corn and the common cereals according to inspectors' and buyers' standards or according to recognized standards of perfection. Lectures and quizzes will be given, explaining the work in the judging-room. A special study will be made of corn in the selection of seed ears. Very few farmers will select a "good" ear of corn before they have been carefully instructed and trained to note defects and vital points. It is necessary to know the characteristics of a breed and its recognized standard of perfection before one can intelligently select breeding animals. This is true also of a variety of corn or wheat, and the improved qualities of higher protein, greater vitality and larger productiveness which may be bred into corn by careful and intelligent selection should greatly increase the value of this crop to the farmer.

Blacksmithing. Forging and welding, construction of singletree clips, wagon ironing, clevises, horseshoes, sharpening and tempering plows and tools, general repair work. Advanced work is also offered in the care and management of boilers and engines. If the student desires, he can make a forge and set of blacksmith tools to take home with him, paying only for the iron used.

Farm Dairy Course.

Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Dairying	5
Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Carpentry	5
Dairy Practice	5

Dairying. Milk—its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns, and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory-cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may test the work of the different makes of separators, churns, etc.

The remainder of this course is the same as the first year of the farmers' short course.

Dairy Course.

Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

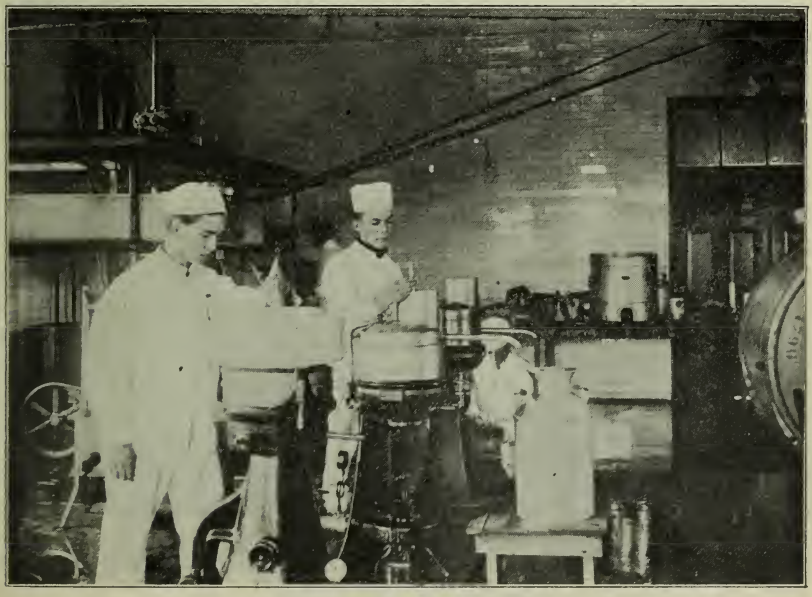
Dairying	5
Feeds and Feeding	5
Diseases of Dairy Animals	$2\frac{1}{2}$
Bookkeeping	$2\frac{1}{2}$
Butter- and Cheese making	5
Dairy Practice	10
Boiler and Engine	5

Dairying. Milk — its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Feeds and Feeding. Properties of common feed stuffs; their effect on the character and yield of milk and butter; adaptation and combination of feeds to meet the needs of dairy cows; effect of feed on quality of product; preparation of feeds and methods of feeding; compounding of dairy rations to secure the best yield at least cost. Study of the feeding of the College dairy herd; the dairy farm and care and management of dairy herd. Text-book, Henry's Feeds and Feeding.

Diseases of Dairy Animals. The common ailments of calves and dairy cows are discussed and their causes and symptoms explained, remedies and preventives suggested, all from a practical farmer's standpoint. During the dairy school the College herd will be tested with tuberculin and the students taught how to make the test.

Bookkeeping. Practice in bookkeeping that will enable the student to understand the underlying principles, followed by training in keeping books for farm, dairy and creamery accounts.



DAIRY SEPARATOR ROOM.

Butter- and Cheese-making. The handling of the milk for the market and for butter-making, including milking, straining, aerating, cooling, preserving, and shipping; testing; creaming of milk by the separator; cream-ripening and butter-making. Construction and management of skimming stations and creameries; methods of handling farm-separator cream; methods of dealing with patrons. The handling of milk for cheese-making; contamination, aeration, enzymes, rennet, making of cheddar cheese, cutting and heating curd, drawing whey, dripping and milling the curd, salting and pressing the curd, curing and packing the finished cheese, construction of cheese factories. Swiss, limburger, edam and cottage cheese. Text-books: Decker's Cheese-making, Wing's Milk and its Products, Farrington and Woll's Testing Milk and its Products. Lectures.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. Students may choose either creamery, butter-making, cheese-making, or private dairying. Thorough instruction and practice will be given in all three of these lines. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory-cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may make test of the work of the different makes of separators, churns, etc.

Boilers and Engines. Lectures and practice in the firing of boilers, care and running of engines, pumps, etc.; practice in shops.

DAIRY HALL.

Young Men's Christian Association.

"See that he (the college student) is in the fullest sense a man and a good man."—PRESIDENT ROOSEVELT.

"Character is of more importance than education."—PRESIDENT SCHURMAN, *of Cornell University.*

"The young men going to college will be the leaders of society in the future. If they leave the college as earnest Christians, they will exert good influences throughout their lives."—HON. JAMES WILSON, *United States Secretary of Agriculture.*

"It is a holy mission to reform a boy or man after he has gone wrong, but it is still better to save him from going wrong."—HON. ALBERT B. CUMMINS, *Governor of Iowa.*

OBJECT. The Young Men's Christian Association is organized for service. Any young man in the College who is of good moral character may belong. Although its distinct function is religious, it is not exclusively such. Active membership is limited to those belonging to evangelical churches, while those young men who are not church members but who believe in good, clean living may join as associate members.

HEADQUARTERS. In the fall of 1903 the association rented what is known as Park Place, situated at the corner of Ninth and Fremont streets. This building contains twenty-eight rooms for students, with bath-rooms, etc. It is heated by steam and lighted by electricity. In one end of the building there is a large, well-lighted parlor used by the association for its regular Sunday afternoon meetings, for a reading- and game-room, and for social headquarters. This room is open to all students of the College. The building will be used by the association again in 1904–'05.

NEW-STUDENT WORK. New students are met at trains, taken to headquarters, and assisted to find rooms. A handbook published by the two associations and containing valuable information to the new student is given to each one. At the College, in the main building, an information bureau is kept during the first few days of college. The parlors of the Young Men's Christian Association house are wide open for each new student. Every evening of the opening days special amusements are offered. A "stag" social is given to all new men on one of the first evenings of the term.

Y. M. C. A. CABINET.

EMPLOYMENT BUREAU. Students are assisted to find work free of charge. This work is under the supervision of the general secretary, assisted by an employment bureau committee.

BIBLE STUDY. The association offers three or four Bible study courses. A regular systematic course is studied. The classes meet once a week, under student leaders. Two hundred and five men were enrolled in fifteen different classes during the past year. A force of thirty men will prepare themselves during the summer to lead classes during 1901–'05. The plans of the Bible study committee call for 300 men.

MISSION STUDY. Several courses in the study of missions will also be offered by the association. Many men have received a broad general knowledge of foreign lands by this study.

REGULAR MEETINGS. The association holds its regular meetings on Sunday afternoon in the parlors of headquarters. These meetings are generally led by different members of the Faculty, by business men down town, or by outside speakers. A mid-week prayer meeting led by students is held on Wednesday evenings.

SOCIAL AND RECEPTIONS. From time to time socials and receptions are held. These serve to draw the men closer together. At the beginning of the fall and winter terms there is given a social especially planned for the new students.

CORRESPONDENCE. The association employs a general secretary on full time. Any prospective student who desires information not contained in this catalogue may feel free to write to him. Address, General Secretary of the Young Men's Christian Association, Manhattan, Kan.

EXPERIMENT STATION BUILDING AND GREENHOUSE.

Y. W. C. A. CABINET.

Young Women's Christian Association.

The American Student Young Women's Christian Association consists of 450 student associations, with a total membership of 27,110, and with an enrollment of 16,349 in Bible classes during the year 1902–'03. In many institutions the enrolment has been doubled during the past year, and this has been true of our association.

What college organization offers a better training for the responsibilities of life than the Young Women's Christian Association? It is based upon the fundamental principles of Christianity, and seeks to create a sentiment for all that is pure and true and noble. It seeks to organize and unite all the Christian forces of the College for practical work. It is composed of the best young women in college—those who are leaders in their studies. It is strongly supported by the members of the Faculty, Board of Regents, and by the students in general.

Some of the important features of the work in our College:

1. The fall compaign committee, who meet new girls at the train and assist them in getting located and started right in college.

2. The lookout committee, who care for those who may be ill or need special care.

3. Weekly devotional meetings, which are a source of inspiration to higher ideals.

4. Prayer circles, Bible study, and mission study classes, which broaden the view of Christian work.

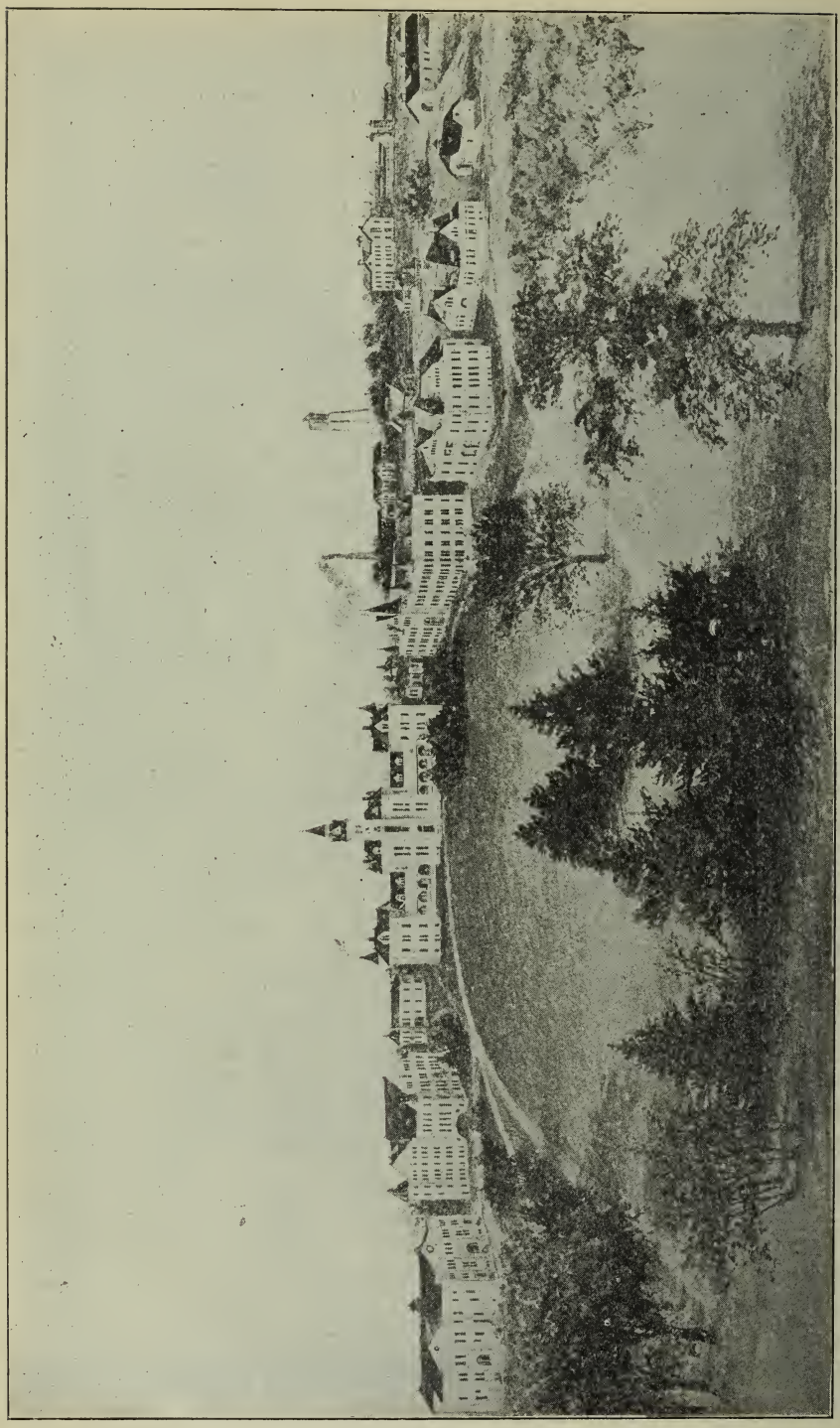
5. Opportunity for social development through socials or receptions given each month by the social committee.

6. Opportunity for doing active Christian work among College girls.

7. A general secretary, the employed officer of the association, and the advisory committee, which consists of Faculty ladies and others especially interested in the work, sustain a general advisory relation to the officers of the association and assist them in the broadening and carrying out their plans of work.

8. A Young Women's Christian Association home is maintained, where all girls will be welcomed. Should no one meet you when you arrive in the city, come to the home, where some one will be ready to assist you.

All young women contemplating attending college are invited to write to the general secretary in regard to the association or for information concerning the College not found in the catalogue.



GENERAL VIEW.

General Information.

Terms of Admission.

Persons over fourteen years of age will be admitted in any of the following ways:

1. Kansas teacher's certificate, provided no subject is below seventy per cent.
2. Diploma received on completion of a county course of study.
3. Certificate of passing the grammar grade or diploma from the high school of any city or county.
4. Pass a satisfactory examination in reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology.

Persons over eighteen years of age will be admitted to the preparatory classes if unable to pass the common-school branches.

Full admission to the first year, in addition to the common-school branches—reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology—requires bookkeeping, advanced English grammar, English readings, English composition, algebra through progressions, physical geography, elementary botany, ancient and medieval history. (See Preparatory Department, page 90.)

It is quite possible for a good student who enters somewhat behind to make up his deficiency in a year or two and graduate in four years.

All of the preparatory and first year studies are taught each term, and nearly all of the second year subjects are taught each term; so that a person may enter at the beginning of any term and find work suited to his advancement.

Examinations for admission are held at the beginning of each term. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

On entrance, applications for advanced standing in the courses or for credit for certain studies in the courses may be made to the chairman of the committee on examinations. After entrance, such applications should be made to the professor in charge of the study. In any case the applicant will be required to pass such an examination as the professor in charge deems necessary.

Examinations.

Examinations for admission are held at the beginning of each term, as shown in the calendar of the college year. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

Examinations in the courses are held twice each term, as announced in the calendar. The results of the examinations, marked on a scale of 100, are combined with the grades of the preceding daily exercises into a grade for the period. Grades reported to the Secretary for record are made up by giving the mid-term record a value of one-third and the record for the last half of the term a value of two-thirds. For passing a study, the mean grade so calculated, and also the grade for the last half of the term, must be at least seventy. Any student receiving less than a passing grade on two or more studies may be required to drop back or withdraw from the College. Any student may receive a certificate of standing, upon leaving College at the close of a term.

Students deficient in entrance studies must make good such deficiencies before entering on the work of the second year. Students are not catalogued in the junior class unless all deficiencies of the preceding years are provided for. Candidates for graduation must make good all deficiencies before entering on the work of the spring term of the fourth year. No student is considered as a candidate for graduation who, after the opening of the fall term, is deficient more than three full studies in addition to regular work. Extra work is not allowed to any student who failed in any branch the preceding term, or whose average grade for all branches was less than eighty.

After entering college, students are allowed special examinations only upon recommendation of the professor in charge, and by permission of the committee on assignments. Permission for examination in studies not pursued with a class must be obtained at least two months before the examination is held. All such examinations are held under the immediate supervision of the professor in charge, and are thorough and exhaustive. Students desiring credit for work done elsewhere must bring certificates and catalogues to show that the work done is equivalent to ours. The right is reserved to cancel any credits if the work of the student in succeeding branches shows insufficient preparation.

Regulations in Regard to Substitutions.

With the five regular courses that the College now offers, most of the requirements of students are met. For one reason or another, however, some students find it necessary or desirable to substitute something else for the work that their respective courses would re-

quire. To place such substitutions on a systematic basis, the following regulations have been adopted by the Faculty:

1. Substitutions shall, as far as practicable, give training similar to that of the work displaced.

2. No student shall be allowed a substitution for work in which he has failed.

3. Unless made necessary by the acts of the Board of Regents or of the Faculty, substitutions shall not be allowed: (*a*) To students who are below the third year; (*b*) to students who have failed in any study of the two terms' work immediately preceding; (*c*) unless arranged for in advance.

4. Students desiring to substitute other work for any requirement in their respective courses of study must present written requests to the committee on assignments.

5. When a request for substitution is made by any student, the committee on assignments shall consult with all of the professors whose work is touched by the proposed substitution, and if unable to agree with them the case shall be submitted to the Faculty.

6. All substitutions arranged by the committee on assignments shall be reported to the Faculty by posting on the Faculty bulletin-board, and if not objected to within one week shall be reported to the Secretary for record in the students' register.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Monday, and no student may be absent without excuse. Students cannot honorably leave the College before the close of a term, unless excused beforehand. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and absence from them is noted.

There are six prosperous literary societies, which meet weekly in rooms set apart for their use—the Alpha Beta and Franklin, open to both sexes, and the Ionian for young women. The Webster, the Hamilton and the Agricultural Association admit to membership young men only.

At various times during the year the College halls are opened for social and literary entertainments for the whole body of students, or

for classes. For the last seven years the students have organized and presented courses of entertainments, which have been of high value, and of moderate expense to each individual.

Earning One's Way.

The courses of study are based upon the supposition that the student is here for study, and a proper grasp of the subjects cannot be obtained by the average student unless the greater part of his time is given to college duties. Students in straightened circumstances are encouraged and aided in every way possible, but unless exceptionally strong, both mentally and physically, are advised to take lighter work by extending the course, if obliged to give any considerable time to self-support. As a rule, a student should be prepared with means for at least a term, as some time is necessary for one to make acquaintances and learn where suitable work may be had.

The lines in which employment may be had are various. The College itself employs student labor to the extent of about $1200 per month, the rate paid being ten cents per hour. This work is on the farm, in the orchards and gardens, in the shops and printing-office, for the janitor, etc. As one's ability and trustworthiness become established, more responsible and more renumerative work may be had, to a limited extent. Many students obtain employment in the town; some work for their board in families in town or in the country near the College. Labor is everywhere respected, and the student who earns his way is honored by all. He will necessarily have little time for the lighter pleasures that may be incident to college life.

Expenses.

Tuition is Free. An incidental fee of $3 per term will be charged all students from Kansas. Students from outside of Kansas will be charged an incidental fee of $10 per term, and an enrolment fee of $10. Each student must present receipt for incidental fee before enrolment in classes. Rooms, board and washing are not furnished by the College. Board, with furnished room, can be procured in private families at from $2.50 to $3.50 per week, or table board in student clubs from $2 to $2.25 per week. Furnished rooms, without board, can be obtained at from $3 to $5 per month. Some students board themselves at even less cost, and rooms for the purpose can be obtained at a rent of from $1 to $3.50 per month. Washing costs from 50 cents to 75 cents per dozen. Books cost about $3 per term. Young men below the junior year will be required to have military uniforms costing about $12, and young women below the junior year must have a physical-training suit costing about $3. Ordinary expenditures, aside from clothing and traveling expenses, range from

$100 to $200 per year. No institution in the state furnishes an education at less cost to the student.

Business Directions.

General information concerning the College and its work, studies, examinations, grades, boarding places, etc., may be obtained from the President or the Secretary.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several professors and superintendents.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid from the office of the state treasurer.

All payments of principal and interest on account of bonds or land contracts must be made to the state treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The *Industrialist* may be addressed through Pres. E. R. Nichols, managing editor.

Donations for the library should be sent to the Librarian; donations for the museum, to the curator of the museum.

Applications for farmers' institutes should be made as early in the season as possible, addressing Institute Department, Kansas State Agricultural College.

Applications for the publications of the Experiment Station, and general inquiries concerning its work, should be addressed to Agricultural Experiment Station; but correspondence concerning any special line of investigation should be sent to the member of the Council in charge of the work concerning which information is desired.

All half-tones in this catalogue were made from photographs taken by Dr. S. C. Orr, of Manhattan, who has done all the College view work for the last five years.

"THE STUDENTS' HERALD" STAFF.

Students.

Graduates.

In Course Leading to Master's Degree.

Loua Adelle Blachly, B. S. '01 ..... *Domestic Science, Chemistry, Bacteriology.*
Manhattan, Riley county.

Frederick Waldemar Christensen, B. S. '00..... *Chemistry.*
Randolph, Riley county.

Claude Carrol Cunningham, B. S. '03 .. *Agronomy, Soil Formation.*
Manhattan, Riley county.

Trena Dahl, B. S. '01..... *Domestic Science, Chemistry.*
Webber, Jewell county.

Edith Anna Goodwin, B. S. '03..... *Chemistry, Domestic Science, Music.*
Detroit, Dickinson county.

Oscar Hugo Halstead, B. S. '95 ..... *Mathematics, Physics.*
Manhattan, Riley county.

Ivan L. Nixon, B. S. '03 .... *Entomology, Horticulture.*
Manhattan, Riley county.

Hattie May Noyes, '91 ..... *Domestic Science.*
Wabaunsee, Wabaunsee county.

Harold Addison Spilman, B. S. '03..... *Forestry, Botany.*
Manhattan, Riley county.

Gertrude Ella Stump, B. S. '96..... *Domestic Science, Chemistry.*
Manhattan, Riley county.

Cora Gertrude Thackrey, B. S. '98 ..... *Domestic Science, Chemistry.*
Manhattan, Riley county.

NON-RESIDENT.

Frank Edwin Uhl, B. S. '96..... *Bacteriology, Agriculture.*
Gardner, Johnson county.

In Advanced Work Not Leading to a Degree.

Delmer Akin, B. S. '01..... *Chemistry, Bacteriology.*
Manhattan, Riley county.

Richard Franklin Bourne, B. S. '03..... *Veterinary Science, Physiology.*
Manhattan, Riley county.

Corinne Failyer, B. S. '03..... *Botany, Entomology, Zoology, German, Music.*
Manhattan, Riley county.

Harry Verne Forest, B. S. '00..... *Mechanics, Psychology, German, Oratory.*
Thayer, Neosho county.

Arthur B. Gahan, B. S. '03 ..... *Entomology, German.*
Manhattan (Pottawatomie county).

Christine Delphine Hofer, B. S. '02..... *Music, Drawing.*
Manhattan, Riley county.

Abbie Elida Putnam, B. S. '02..... *Domestic Science.*
Manhattan, Riley county.

Florence Helen Vail, B. S. '01..... *Chemistry.*
Manhattan, Riley county.

SENIORS.

Name	Post-office and county (or state).
Edward E. Adamson,	Altamont, Labette.
Amy Alena Allen,	Manhattan, Riley.
Marian Allen,	Manhattan, Riley.
Grace Allingham,	Manhattan, Riley.
James George Arbuthnot,	Cuba, Republic.
Clinton Jesse Axtell,	Blue Rapids, Marshall.
Wallace W. Baird,	Milford, (Riley).
Flora Evacelia Ballou,	Delphos, Ottawa.
William Burgess Banning,	Lyndon, Osage.
Asa William Barnard,	Manhattan, Riley.
Clara Florence Barnhisel,	Newton, Harvey.
Frank Lorin Bates,	Manhattan, Riley.
Louis Blaine Bender,	Highland, Doniphan.
John Jeremiah Biddison,	Manhattan, Riley.
P. McDonald Biddison,	Manhattan, Riley.
Wallace Newton Birch,	Manhattan, Riley.
Otis Neel Blair,	Lyndon, Osage.
Georgia Evelyn Blaney,	Manhattan, Riley.
William Armfield Boys,	Pomona, Franklin.
Walter Brant,	Wichita, Sedgwick.
Viva Brenner,	Manhattan, Riley.
Thomas Warner Buell,	Roanoke, *Texas*.
August Belmont Carnahan,	Douglass, Butler.
Clark Stewart Cole,	Manhattan, Riley.
Victor L. Cory,	Great Bend, Barton.
Jennie Pearl Cottrell,	Wabaunsee, Wabaunsee.
Bertha Cowles,	Sibley, Douglas.
Ella Criss,	Grigsby, Scott.
Wilma Greene Cross,	Topeka, Shawnee.
Mary E. Davis,	Manhattan, Riley.
William DeOzro Davis,	Marquette, McPherson.
Charles Sumner Dearborn,	Silverlake, Shawnee.
Thomas E. Dial,	Leavenworth, Leavenworth.
Lawrence A. Doane,	Manhattan, Riley.
May Doane,	Manhattan, Riley.
Roy Nathan Dorman,	Wabaunsee, Wabaunsee.
Carl O. Duehn,	Clements, Chase.
Glen Edgar Edgerton,	Manhattan, Riley.
Carl G. Elling,	North Cedar, Jefferson.
Ralph B. Felton,	McPherson, McPherson.
Ray Bonifield Felton,	McPherson, McPherson.
Elizabeth Finlayson,	Summerfield, Marshall.
Jessie Lois Fitz,	Vinland, Douglas.
Beulah Fleming,	Smith Center, Smith.
Hattie L. Forsyth,	Dwight, Morris.
Louis Cloyd Foster,	Newton, Harvey.
Edwin Chase Gardner,	Homewood, Franklin.
Walter Otis Gray,	Galena, Cherokee.
Augusta Griffing,	Manhattan, Riley.
John Bernice Griffing,	Manhattan, Riley.

Name.	Post-office and county (or state).
Charles Alfred Groves,	Edwardsville, Wyandotte.
Mary Elizabeth Longfellow Hall,	Burden, Cowley.
Harry Vaughn Harlan,	Walnut, Crawford.
Mamie Magdelene Hassebroek,	Manhattan, Riley.
Arthur Hurschel Helder,	Manhattan, Riley.
Mamie Eva Helder,	Manhattan, Riley.
William A. Hendershot,	Manhattan, Riley.
Charles Albert Hite,	Manhattan, Riley.
John Samuel Houser,	Oxford, Sumner.
Evan James,	Bala, Riley.
John Arthur Johnson,	Manhattan, Riley.
Helen Kernohan,	Beverly, Lincoln.
Ralph Teeter Kersey,	Louisville, Pottawatomie.
Charles Franklin Kinman,	Clay Center, Clay.
George Otto Kramer,	Wabaunsee, Wabaunsee.
Alice M. Loomis,	Manhattan, Riley.
George W. Loomis,	Girard, Crawford.
Sara Grace McCrone,	Haddam, Washington.
Vera Alta McDonald,	Manhattan, Riley.
Freide E. Marty,	Merriam, Johnson.
Kirk P. Mason,	Cawker City, Mitchell.
Howard David Matthews,	Carthage, *Missouri.*
Vernon Matthews,	Carthage, *Missouri.*
Chester Arthur Maus,	Topeka, Shawnee.
Julia Anna Monroe,	Whiting, Jackson.
Helen Monsch,	Manhattan, Riley.
Samuel Erwin Morlan,	Courtland, Republic.
Albert Marvin Nash,	Manhattan, Riley.
Virginia Viola Norton,	Manhattan, Riley.
Mary Lorena O'Daniel,	Westmoreland, Pottawatomie.
Tom Lawrence Pittman,	Hammond, Bourbon.
Burr Nuton Porter,	Oronoque, Norton.
Charles A. Pyles,	Morrill, Brown.
Arthur J. Rhodes,	Manhattan, Riley.
Elvin Rickman,	Manhattan, Riley.
Jennie Florence Ridenour,	Manhattan, Riley.
Florence Rebecca Ritchie,	Manhattan, Riley.
Jesse Loyde Rogers,	Louisburg, Miami.
Flora Rose,	Manhattan, Riley.
Lawrence V. Sanford,	Oneida, Nemaha.
James G. Savage,	Manhattan, Riley.
Nickolas Schmitz,	Sterling, Rice.
Robert Douglas Scott,	Blue Rapids, Marshall.
Roy A. Seaton,	Jewell, Jewell.
John T. Skinner,	Neodesha, Wilson.
Homer A. Smith,*	Logan, Phillips.
Margie Smith,	Manhattan, Riley.
Sallie Maud Smith,	Manhattan, Riley.
Arthur S. Stauffer,	Newton, Harvey.

* Deceased.

Name.	Post-office and county (or state).
K. Elizabeth Sweet,	Burlington, Coffey.
Wendell Phillips Terrell,	Fort Worth, *Texas*.
Henry Thomas,	Wichita, Sedgwick.
Carl Thompson,	Garrison, Pottawatomie.
Norman Lee Towne,	Valencia, Shawnee.
William Turnbull,	Summerfield, Marshall.
Gertrude M. Vance,	Manhattan, Riley.
Orin Russell Wakefield,	Wilsey, Morris.
Frank Cooper Webb,	Clearwater, Sedgwick.
William Allen Webb,	Clearwater, Sedgwick.
James Halley Whipple,	Olivet, Osage.
Orville Blaine Whipple,	Olivet, Osage.
Amelia Jennie Wiest,	Manhattan, Riley.
Robert S. Wilson,	Eatonville, Cowley.
Retta Womer,	Womer, Smith.

JUNIORS.

Harvey Adams,	Ozawkie, Jefferson.
Elva Veola Akin,	Manhattan, Riley.
Pearle Akin,	Manhattan, Riley.
Albert Clay Aumann,	Geuda Springs, (Cowley).
Nellie Wilhelmina Baird,	Marquette, McPherson.
Walter Raymond Ballard,	Baxter Springs, Cherokee.
Jessie Mary Ballou,	Delphos, Ottawa.
Frank Everett Balmer,	Woodston, Rooks.
Harry N. Bealey,	Morrill, Brown.
Herbert F. Bergman,	Manhattan, Riley.
Walter Herman Berkey,	Louisburg, Miami.
Raymond Russell Birch,	Manhattan, Riley.
C. Paul Blachly,	Manhattan, Riley.
Frank Andrus Blakslee,	Manhattan, Riley.
Helen Elizabeth Bottomly,	Manhattan, Riley.
Roy C. Bowman,	Oxford, Sumner.
Edward Brant,	Wichita, Sedgwick.
Flora Edna Brenner,	Manhattan, Riley.
William Wilkinson Buckley,	Clyde, Cloud.
Harvey A. Burt,	Bronson, Bourbon.
Eva Maggy Burtner,	Manhattan, Riley.
Robert Moore Campbell,	Wamego, Pottawatomie.
Will Ward Campbell,	Emporia, Lyon.
Ray Arthur Carle,	Topeka, Shawnee.
Albert F. Cassell,	Beverly, Lincoln.
Robert Merritt Chamberlain,	Stockton, Rooks.
James Hamilton Cheney,	Great Bend, Barton.
Joseph Griffith Chitty,	Frankfort, Marshall.
L. Ethel Clemons,	Manhattan, Riley.
William Irving Coldwell,	Oxford, Sumner.
Mary Margaret Cole,	Manhattan, Riley.
Andrew D. Colliver,	Galva, McPherson.
Mary P. Colliver,	Galva, McPherson.
Archie Conner,	Lyons, Rice.
Gertrude Matilda Conner,	Mitchell, Rice.

Name.	Post-office and county (or state).
Perry Alfred Cooley,	Manhattan, Riley.
Ruth Cooley,	Manhattan, Riley.
Forrest Leslie Courter,	Downs, Osborne.
Edgar Andrew Cowles,	El Dorado, Butler.
Charles William Cummings,	Wilmore, Comanche.
Jules Cool Cunningham,	Glasco, Cloud.
Mamie Grace Cunningham,	Delphos, (Cloud).
Edith Nellie Davis,	Manhattan, Riley.
Guy R. Davis,	Kansas City, *Missouri.*
Minnie Estella Deibler,	Manhattan, Riley.
Ula May Dow,	Manhattan, Riley.
Olive B. Dunlap,	Walsburg, Riley.
Mary Josephine Edwards,	Emporia, Lyon.
Arthie Aileen Edworthy,	Solomon, Dickinson.
Perylle Avis Embry,	Ottawa, Franklin.
Earl Joy Evans,	Jewell, Jewell.
William K. Evans,	Colby, Thomas.
Minter Farrar,	Axtell, Marshall.
Scott Stuart Fay,	Wilsey, Morris.
Edith Louisa Felton,	McPherson, McPherson.
Arba C. Ferris,	Conway, McPherson.
Lathrop Weaver Fielding,	Manhattan, Riley.
Lena Finley,	Manhattan, Riley.
Frances Walker Fish,	Santa Barbara, *California.*
Charles Wesley Fryhofer,	Randolph, Riley.
Robert Anson Fulton,	Beloit, Mitchell.
Christian A. Gableman,	Fairport, (Ellis).
George W. Gasser,	Manhattan, Riley.
Charles A. Gilkison,	Larned, Pawnee.
William H. Goodwin,	Detroit, Dickinson.
Rockwell W. Greene,	Lincoln, Lincoln.
Francis Linus Grimm,	Solomon, Dickinson.
David H. Gripton,	Smith Center, Smith.
Herbert Revere Groome,	Manhattan, Riley.
Mabel Estelle Groome,	Williamsburg, Franklin.
Roswell Leroy Hamaker,	Manhattan, Riley.
Boline Hanson,	Jamestown, (Republic).
Otto Albert Hanson,	Marquette, McPherson.
William H. Harold,	Marion, Marion.
Lola May Harris,	Harveyville, Wabaunsee.
Clarence Hawkinson,	Marquette, McPherson.
Harry Russell Heim,	Lincoln, Lincoln.
Henry P. Hess,	Manhattan, Riley.
Orley Justin Hillyer,	Manhattan, Riley.
Frederick Earl Hodgson,	Little River, Rice.
William H. Irving,	Baker, Brown.
Charles Fredrick Johnson,	Mayday, Riley.
James Johnson,	Manhattan, Riley.
Winifred Mae Johnson,	Solomon Rapids, Mitchell.
George Henry Kellogg,	Manhattan, Riley.
Evan Kernohan,	Beverly, Lincoln.

Name.	Post-office and county (or state).
Clarence Brady Kirk,	Burr Oak, Jewell.
Mildred I. Kirkwood,	Marysville, Marshall.
Nina H. Kirkwood,	Marysville, Marshall.
William C. Lane,	Burlington, Coffey.
William Ljungdahl,	Manhattan, (Geary).
Daniel Andrew Logan,	Manhattan, Riley.
Ed. Logan,	Manhattan, Riley.
Vallie Myrtle Long,	Simpson, Mitchell.
Rhoda C. McCartney,	Garden City, Finney.
Nellie Reeder McCoy,	Meriden, Jefferson.
Ernest Wilson Matherly,	Manhattan, Riley.
Grace Burchett Maxey,	Pomona, Franklin.
Richard Meyer,	Riley, Riley.
George C. Miller,	Valencia, Shawnee.
Leanore Elizabeth Miller,	Manhattan, Riley.
Benjamin Frank Mudge,	Manhattan, Riley.
Mary Mudge,	Manhattan, Riley.
Lewis J. Munger,	Hollis, Cloud.
Verda Ellen Murphy,	Manhattan, Riley.
William Bartle Neal,	Larned, Pawnee.
Ross N. Newland,	Groveland, McPherson.
Rachel Gertrude Nicholson,	Manhattan, Riley.
Jens Nygard,	Denmark, Lincoln.
Nell Paulsen,	Whiting, Jackson.
John J. Peckham,	Courtland, Republic.
Luther B. Pickett,	Emporia, Lyon.
Myron A. Pierce,	Manhattan, Riley.
Charles Holcomb Popenoe,	Topeka, Shawnee.
Richard Reece,	Lawrence, Douglas.
Fanny E. Reynolds,	Cawker City, Mitchell.
Emmit D. Richardson,	Glen Elder, Mitchell.
Eva May Rickman,	Manhattan, Riley.
Clarence M. Riker,	Oswego, Labette.
Jennie Inez Ritner,	Manhattan, Riley.
Kate L. Robertson,	Manhattan, Riley.
George Rummel,	Hartford, Lyon.
Garfield Shirley,	Newman, Jefferson.
Walter Emery Smith,	Lebo, Coffey.
Winfield Weber Smith,	Norton, Norton.
Guy Emerson Souders,	Manhattan, Riley.
William Wesley Stanfield,	Chanute, Neosho.
Blanche Stevens,	Humboldt, Allen.
Effie L. Stewart,	Humboldt, Allen.
Mary Catherine Strite,	Manhattan, Riley.
Ernest Felix Swanson,	Hollis, Cloud.
Jessie A. Sweet,	Stockdale, Riley.
Charles Bartholow Swift,	Williamsburg, Franklin.
Howard Taylor,	Chapman, Dickinson.
Charles L. Thompson,	Leon, Butler.
John Bert Thompson,	Leon, Butler.
Roger S. Thompson,	Osborne, Osborne.

Name.	Post-office and county (or state).
Claude B. Thummel,	Axtell, Marshall.
Jessie Leona Travis,	Oakley, Logan.
James Monroe Trobert,	Kelly, Nemaha.
Alonzo F. Turner,	Oakley, Logan.
Marcia Elizabeth Turner,	Rock Creek, Jefferson.
Grace E. Umberger,	Hymer, Chase.
Harry Umberger,	Hymer, Chase.
Fred Van Dorp,	Topeka, Shawnee.
Rebecca Rees Washington,	Manhattan, Riley.
Joseph Franklin Weed,	Athol, Smith.
Carl Wheeler,	Bridgeport, Saline.
Earl Wheeler,	Bridgeport, Saline.
Inez Wheeler,	Bridgeport, Saline.
Clarence H. White,	Burlington, Coffey.
Wayne White,	Burlington, Coffey.
William J. Wilkinson,	Manhattan, Riley.
George Leroy Williston,	Manhattan, Riley.
Edgar M. Wilson,	Eatonville, Cowley.
Frederick W. Wilson,	Hill City, Graham.
George Heber Wilson,	Winfield, Cowley.
Charles H. Withington,	Manhattan, Riley.
George Wolf,	Garden City, Finney.
Jay G. Worswick,	Oskaloosa, Jefferson.
Earnest A. Wright,	Smith Center, Smith.

SOPHOMORES.

Ernest L. Adams,	Ozawkie, Jefferson.
Kate Alexander,	Welda, Anderson.
Charles Wesley Allison,	Fort Scott, Bourbon.
Harvey Wiltson Baker,	Marvin, Phillips.
Raymond C. Barr,	Manhattan, Riley.
R. A. Barry,	Belle Plaine, Sumner.
Charles Earle Bassler,	Manhattan, Riley.
Mabel Baxter,	Manhattan, Riley.
Julia Susanna Bayles,	Manhattan, Riley.
Jesse N. Bealey,	Morrill, Brown.
Ethel Viola Bixby,	Solomon Rapids, Mitchell.
Horace Bixby,	Solomon Rapids, Mitchell.
John W. Blachly,	Leonardville, Riley.
Herbert Jefferson Bottomly,	Manhattan, Riley.
George K. Brenner,	Manhattan, Riley.
Frank E. Brown,	Highland, Doniphan.
Walter E. Burt,	Bronson, Bourbon.
Arthur Butler,	Lawrence, Douglas.
Fred Wallace Caldwell,	Garnett, Anderson.
John Willard Calvin,	Manhattan, Riley.
Fred Gordon Campbell,	Hutchinson, Reno.
Stella Campbell,	Goodrich, Linn.
John Sheldon Canfield,	Belleville, Republic.
Torje Carlson,	Almena, Norton.
Robert Archer Cassell,	Manhattan, Riley.
Frank A. Chamberlain,	Stockton, Rooks.

Name.	Post-office and county (or state).
Florence Christina Christensen,	Randolph, Riley.
Norman H. Clark,	Alta Vista, (Geary).
Roy H. Clark,	Newton, Harvey.
Edith E. Coffman,	Manhattan, Riley.
Amy Cole,	Manhattan, Riley.
Earle Albert Cole,	Manhattan, Riley.
Hermon H. Conwell,	Topeka, Shawnee.
Mary Copley,	Manhattan, Riley.
Marvin James Copping,	Delphos, Ottawa.
Don Carl Corbin,	Manhattan, Riley.
Alson J. Cowles,	El Dorado, Butler.
Ethel Cowles,	Sibley, Douglas.
Charles Curtis Crowley,	Council Grove, Morris.
Everet William Cudney,	Belpre, Edwards.
Margaret Ruth Cunningham,	Glasco, Cloud.
Winifred Anna Dalton,	Saint George, Pottawatomie.
Dickie Davies,	Green, Clay.
Ernest Davis,	Parsons, Labette.
Herbert Lee Davis,	Junction City, Geary.
Robert Lee Davis,	Vermilion, Marshall.
Loea Bessie DeArmond,	Manhattan, Riley.
Alexander Denneler,	Winchester, Jefferson.
Jay L. Dow,	Manhattan, Riley.
Odessa Della Dow,	Manhattan, Riley.
Charlie Ross Edwards,	Phillipsburg, Phillips.
Leonard Roscoe Elder,	Osage City, Osage.
Harriet Maria Esdon,	Olsburg, Pottawatomie.
Lois Failyer,	Manhattan, Riley.
Smith Faris,	Denison, Jackson.
Lena Cora Fay,	Wilsey, Morris.
John W. Feigh,	Chanute, Neosho.
Harlow Ferguson,	Zeandale, (Wabaunsee.)
Thomas N. Fish,	Santa Barbara, *California.*
M. Edith Forsyth,	Dwight, Morris.
James Wilson Freeman,	Walnut, Crawford.
Philip Dudley Gardiner,	Goddard, Sedgwick.
Jesse E. George,	Manhattan, Riley.
Olga Effie George,	Manhattan, Riley.
William Thomas Gilliford,	Olsburg, Pottawatomie.
O. M. Goodrich,	Mankato, Jewell.
Frank W. Grabendike,	Ottawa, Franklin.
Lewis M. Graham,	Turon, Reno.
Rennie Greene,	Lincoln, Lincoln.
Elbert Ernest Greenough,	Bennington, Ottawa.
May Lucetta Griffing,	Manhattan, Riley.
Albert P. Haeberle,	Peck, Sedgwick.
Clarence E. Hamilton,	Manhattan, Riley.
William Alex Hamilton,	Manhattan, Riley.
Richard Nimrod Hankins,	Iola, Allen.
Daisye Ina Harner,	Manhattan, Riley.
Arthur Garfield Harris,	Manhattan, Riley.

Name.	Post-office and county (or state).
John F. Harrison,	Manhattan, Riley.
Raymond D. Harrison,	Jewell, Jewell.
Edna Hawkinson,	Marquette, McPherson.
Leslie Eugene Hazen,	Centralia, Nemaha.
Vern E. Hess,	Almena, Norton.
Lark Hoffman,	Manhattan, Riley.
Gertrude Elma Hole,	Manhattan, Riley.
Anna Hostrup,	Manhattan, Riley.
Ruby A. Howard,	Manhattan, Riley.
Harvey B. Hubbard,	Beloit, Mitchell.
Flora May Hull,	Manhattan, Riley.
Kate M. Hutchinson,	Bellaire, Smith.
William Harry Ijams,	Aurora, Cloud.
Irene Ingraham,	Manhattan, Riley.
Helen C. Inskeep,	Manhattan, (Pottawatomie).
Edward M. Johnston,	Caldwell, Sumner.
Charles Sumner Jones,	Moran, Allen.
Laura Frances Jones,	Moran, Allen.
Ralph Le Roy Joss,	Sabetha, Nemaha.
Clara Myrtle Kahl,	Manhattan, Riley.
Grover Cleveland Kahl,	Manhattan, Riley.
Almira Kerr,	Idana, Clay.
Frederic Arthur Kiene,	Valencia, Shawnee.
Mary Kimball,	Manhattan, Riley.
Herbert Kindred,	Lenape, Leavenworth.
Clyde Livingston Lewis,	Kansas City, Wyandotte.
Percy E. Lill,	Mounthope, Sedgwick.
Laura Lillian Lyman,	Manhattan, Riley.
Charles Wilbur McCampbell,	Manhattan, Riley.
Edward Louis McClaskey,	Girard, Crawford.
Fred B. McKinnell,	Maize, Sedgwick.
Cora E. McNutt,	Ottawa, Franklin.
Alma McRae,	Goodrich, Linn.
Marshall H. Matts,	Homewood, Franklin.
Henry Greenleaf Maxwell,	Kansas City, Wyandotte.
Sarah Mead,	Dexter, Cowley.
Bernard P. Miller,	Lorraine, Ellsworth.
Fred Carl Miller,	Belvue, Pottawatomie.
Clarence Moffitt,	Winfield, Cowley.
Roy N. Monroe,	Whiting, Jackson.
Joseph Shaw Montgomery,	Cedarpoint, Chase.
Edward Allen Morgan,	Brainerd, Butler.
Ivy Beatrice Morgan,	Sylvangrove, Lincoln.
John Francis Morgan,	Sylvangrove, Lincoln.
James Morrison,	Ford, Ford.
William Thomas Morrison,	Phillipsburg, Phillips.
Alvan Taylor Munger,	Manhattan, Riley.
Ruth Emma Neiman,	Whitewater, Butler.
Bernard R. Nelson,	Lawrence, Douglas.
Malcolm E. Nicholson,	Council Grove, Morris.
Amer B. Nystrom,	Topeka, Shawnee.

Name.	Post-office and county (or state).
Elinore B. Ober,	Ottawa, Franklin.
Faye H. Oliver,	Dwight, Morris.
Anna Matilda Olson,	Manhattan, Riley.
Henry Otto,	Manhattan, Riley.
Charles Martin Paddock,	Manhattan, Riley.
Louie Lee Paine,	Manhattan, Riley.
Rennick Rubenell Paine,	Manhattan, Riley.
Louis Reynolds Parkerson,	Manhattan, Riley.
Leonard Marion Peairs,	Lawrence, Douglas.
Arthur Alexander R. Perrine,	Newton, Harvey.
Milo C. Phelps,	White City, Morris.
Martha S. Pittman,	Hammond, Bourbon.
Gerald C. Pohlman,	Ellsworth, Ellsworth.
Harry E. Porter,	Manhattan, Riley.
George Percival Potter,	Peabody, Marion.
Raymond Ramage,	Arkansas City, Cowley.
Lester Allen Ramsey,	Topeka, Shawnee.
Charles Clinton Randle,	Bala, Riley.
Alvin Josiah Reed,	Saint Clere, Pottawatomie.
Harry Eugene Reed,	Smith Center, Smith.
Bertie Fay Richards,	Tyner, Smith.
Nellie Eva Rickman,	Manhattan, Riley.
Thurman Guy Rickman,	Manhattan, Riley.
Ernest W. Robbins,	Arkansas City, Cowley.
Albert Finis Roberts,	Morrill, Brown.
Dorse Robinson,	Beloit, Mitchell.
Carl E. Rouse,	Beloit, Mitchell.
Elmer D. Samson,	Quinter, Gove.
Walter Ray Schenck,	Tonganoxie, Leavenworth.
William Paul Schroeder,	Lebanon, Smith.
Orville Oshell Scott,	Hutchinson, Reno.
Earl Locke Shattuck,	Holton, Jackson.
Martin Roy Shuler,	Clifton, Washington.
Perle Harrison Skinner,	Jewell, Jewell.
Anna Elizabeth Smith,	Wamego, Wabaunsee.
Emily G. Smith,	Childress, *Texas.*
Frank H. P. Smith,	Manhattan, Riley.
Stanley Van Smith,	Ozawkie, Jefferson.
Harry Spears,	Richmond, Franklin.
Mabelle Sperry,	Neodesha, Wilson.
Henry Adam Spuhler,	Manhattan, Riley.
Harry L. Stevens,	Green, Clay.
Orin A. Stevens,	Blue Rapids, Marshall.
Arthur Lee Stevenson,	Hepler, Crawford.
Bruce Stewart,	Plattsburg, *Ohio.*
Claudius Stewart,	North Topeka, Shawnee.
Albert D. Stoddard,	Manhattan, Riley.
Grace Elizabeth Streeter,	Milford, Geary.
Lyman Bradley Streeter,	Milford, Geary.
Hiram W. Strong,	Wichita, Sedgwick.
Daniel Charles Sullivan,	Ulysses, Grant.

Name.	Post-office and county (or state).
Bertha Florence Sweet,	Manhattan, Riley.
Helen Louise Sweet,	Manhattan, Riley.
Garfield B. Thomas,	Clay Center, Clay.
Elbert Wren Thurston,	Manhattan, Riley.
Warren Bunn Thurston,	Manhattan, Riley.
S. Ray Tilbury,	Arkansas City, Cowley.
Eiba Todd,	Manhattan, Riley.
Doris M. Train,	Manhattan, Riley.
Tillie Trunk,	Caldwell, Sumner.
Horace E. Ulrich,	Manhattan, Riley.
Alvin Henry Waage,	Leroy, Coffey.
Daniel Walters,	Manhattan, Riley.
Chauncey Iles Weaver,	Wakefield, Clay.
Julia Verona Wendel,	Beattie, Marshall.
Georgiana West,	Silverlake, Shawnee.
Margaret Sanderson Wheeler,	Argentine, Wyandotte.
Edward Bryan Whipp,	Concordia, Cloud.
Harry White,	Council Grove, Morris.
Ralph Richard White,	Newton, Harvey.
Thomas F. White,	Little River, Rice.
Rose Wilkinson,	Manhattan, Riley.
Robert E. Williams,	Herington, Dickinson.
Carl Emory Wilson,	Emmons, Washington.
Edith Worden,	Topeka, Shawnee.
George Leroy Wright,	Marvin, Phillips.
Guy Yerkes,	Hutchinson, Reno.
Asa Calvin Zimmerman,	Moray, Doniphan.

FRESHMEN.

Arthur Lawrence Abrams,	Arkansas City, Cowley.
Bess Alexander,	Welda, Anderson.
Ethel Alexander,	Manhattan, Riley.
Lizzie Bea Alexander,	Manhattan, Riley.
Kate Alfrey,	McAllaster, Logan.
Jessie Patience Allen,	Manhattan, Riley.
Cecile Allentharp,	Manhattan, Riley.
Cora Elizabeth Allison,	Florence, Marion.
Luther Devin Allison,	Florence, Marion.
Clarence Lee Allman,	Manhattan, Riley.
William I. Alstead,	Randolph, Riley.
Augusta C. Amos,	Manhattan, Riley.
Harold H. Amos,	Manhattan, Riley.
Cyrus J. Anderson,	Hollis, Cloud.
William C. Anderson,	Minneapolis, Ottawa.
Elsie Marion Ayres,	Edgerton, Johnson.
John David Ayres,	Edgerton, Johnson.
Benjamin B. Baird,	Milford, (Riley).
Robert Roy Baird,	Milford, (Riley).
William Vernon Baird,	Cherryvale, Labette.
James Edward Baker,	Bendena, Doniphan.
Ethel Barber,	Manhattan, Riley.
Francis Alva Barnett,	Emporia, Lyon.

Name.	Post-office and county (or state).
Maree N. Barnhouse,	Manhattan, Riley.
Walter Ray Barr,	Manhattan, Riley.
Samuel Keith Beach,	Keene, Wabaunsee.
Emma Frances Beates,	Junction City, Geary.
Hulda L. J. Bennett,	Manhattan, Riley.
George P. Berger,	Longford, Clay.
Louis Berges,	Onaga, Pottawatomie.
Ira Roscoe Berkey,	Louisburg, Miami.
Willis Vernon Bethard,	Pleasanton, Linn.
Lewis Angell Bevington,	Jewell, Jewell.
Clare Biddison,	Manhattan, Riley.
Worthy Val Jean Biddison,	Manhattan, Riley.
Ethel Bisbey,	Wamego, Pottawatomie.
Leola Pearl Bixby,	Solomon Rapids, Mitchell.
Harry Louis Blachly,	Leonardville, Riley.
Ida Adelia Blachly,	Leonardville, Riley.
Cool Fenton Blake,	Glasco, Cloud.
Cora Ethereal Blanchard,	Delphos, Ottawa.
E. Lee Boerstler,	Chanute, Neosho.
Wallace B. Bolinger,	Redfield, Bourbon.
Mary Bolton,	Paxico, Wabaunsee.
Mable J. Bower,	Manhattan, Riley.
Warren R. Boyd,	Kensington, Smith.
Henry W. Brinkman,	Olpe, Lyon.
James E. Brock,	Chase, Rice.
Anna Matilda Brown,	Kanona, Decatur.
Foster L. Brown,	Hiawatha, Brown.
Grace Florence Brown,	Manhattan, Riley.
John Henry Brown,	Independence, Montgomery.
Lloyd Archie Brown,	Virgil, Greenwood.
William John Brown,	Fallriver, Greenwood.
Elmer Bull,	Mentor, Saline.
Horace Butler,	Lyons, Rice.
Ralph Elmer Caldwell,	Garnett, Anderson.
Carrie Carls,	Morganville, Clay.
Nannie Carnahan,	Stockdale, Riley.
Florence Carpenter,	Woodsale, Stevens.
Esther Evangeline Christensen,	Randolph, Riley.
Addie Clark,	Manhattan, Riley.
Laura Alice Clark,	Manhattan, Riley.
Millicent E. Clark,	Manhattan, Riley.
Lee S. Clarke,	Wagoner, *Indian Territory*.
Dora Clarkson,	Fairport, Russell.
Maud Bessie Clemmons,	Manhattan, Riley.
Alice Pearl Cloud,	Wabaunsee, Wabaunsee.
Roy Allison Collier,	Liberal, Seward.
Allan Colman,	Talmage, Dickinson.
Claude S. Conner,	Lyons, Rice.
Minnie Faye Conner,	Lyons, Rice.
Jerome Earl Cooley,	Manhattan, Riley.
Ralph Cooley,	Manhattan, Riley.

Name.	Post-office and county (or state).
Allan Elizabeth Cooper,	Manhattan, Riley.
Katherine Cooper,	Manhattan, Riley.
Bernard C. Copeland,	Idana, Clay.
James R. Coxen,	Eskridge, Wabaunsee.
Harry B. Crawford,	Manhattan, Riley.
Glen H. Crippen,	Council Grove, Morris.
Guy S. Crise,	Manhattan, Riley.
Lurie Mae Crofut,	Manhattan, Riley.
Floyd M. Cudney,	Belpre, Edwards.
Sol Whitney Cunningham,	Manhattan, Riley.
Charles Ferdinand Curs,	Manhattan, Riley.
Ross Curtis,	Vermilion, Marshall.
Ward Webster Curtis,	Lenora, Norton.
Eunice Eldessie Custer,	Manhattan, Riley.
Mabell Dana,	Manhattan, Riley.
Curtis Lynn Daughters,	Lincoln, Lincoln.
Donald Davies,	Green, Clay.
Irma Davies,	Green, Clay.
William L. Davis,	Fairview, Brown.
Anna Eliza Day,	Manhattan, Riley.
Bernice Ada Deaver,	Ionia, Jewell.
Lynn DeGarmo,	Great Bend, Barton.
Ida E. DeSelm,	Manhattan, Riley.
William Pen DeWalt,	Centralia, Nemaha.
Edward S. Dolph,	McLouth, Jefferson.
Myron E. Doom,	Bennington, Ottawa.
Fay Douglas,	Manhattan, Riley.
Harry D. Douglas,	Manhattan, Riley.
Alice Ada Dresser,	Manhattan, Riley.
Florence Edith Dresser,	Manhattan, Riley.
Ethel May Dunning,	Sibley, Douglas.
Clarence E. Durham,	Fairport, Russell.
Walter H. Edmundson,	Home, Marshall.
Ross C. Egy,	Langdon, Reno.
Marshal Elsas,	Manhattan, Riley.
Bessie L. Embree,	Topeka, Shawnee.
Emmett Emslie,	Manhattan, Riley.
Oscar W. Erickson,	Pawnee Rock, Barton.
James Renfrew Esdon,	Olsburg, Pottawatomie.
Phillip Eustace,	Wakefield, Clay.
Blanche L. Evans,	Manhattan, Riley.
Foss Farrar,	Arkansas City, Cowley.
Stella Finlayson,	Summerfield, Marshall.
Mabel D. Fleming,	Smith Center, Smith.
Nina B. Foltz,	Manhattan, Riley.
Jerry J. Foster,	Paradise, Russell.
Nora Angelina Frasure,	Ford, Ford.
R. Ernest French,	Manhattan, Riley.
Mamie C. Frey,	Elk, Chase.
William Thomas Frier,	Russell, Russell.
Augusta M. Fullington,	Idana, Clay.

Name.	Post-office and county (or state).
George Lynne Fullington,	Idana, Clay.
Salomea Gabelmann,	Fairport, Russell.
Mary Eliza Gaden,	Riley, Riley.
Erma Gammon,	Ramah, *Colorado.*
George C. Gardner,	Chanute, Neosho.
Mattie May Garrett,	Dodge City, Ford.
John M. Garrity,	Perth, Sumner.
C. Albert Gasser,	Manhattan, Riley.
Clarence T. Gibbon,	Hartford, Lyon.
Hazel D. Gilbert,	Woodruff, Phillips.
Robert T. Gilbert,	Kansas City, *Missouri.*
Walter S. Gish,	Abilene, Dickinson.
George G. Goheen,	Manhattan, Riley.
Philip Goodyear,	Oatville, Sedgwick.
Clyde Jamison Gore,	Raymore, *Missouri.*
Cecile Agnes Graham,	Manhattan, Riley.
Olin Graham,	Floyd, *Texas.*
Mabel Belle Graves,	Day, Washington.
Loren Omer Gray,	Galena, Cherokee.
Mont J. Green,	Randall, Jewell.
Chester W. Grizzell,	Claflin, Barton.
Edna Gertrude Grizzell,	Claflin, Barton.
L. W. Grubb,	Lincoln, Lincoln.
Samuel P. Haan,	Burlington, Coffey.
Bertha Pauline Haggart,	Topeka, Shawnee.
John Halloran,	Castleton, Reno.
Harry T. Hamler,	Manhattan, Riley.
Mary Haney,	Manhattan, Riley.
Myrta Nevada Hargrove,	Hugoton, Stevens.
Ervin Harold,	Manhattan, Riley.
Ina Harold,	Marion, Marion.
Tillie Harold,	Manhattan, Riley.
Susie M. Harper,	Augusta, Butler.
Cecil Meade Harris,	Riley, Riley.
Frank Clyde Harris,	Harveyville, Wabaunsee.
Maude Harris,	Harveyville, Wabaunsee.
Quarton W. Harrison,	Manhattan, Riley.
Ida F. Hassebroek,	Manhattan, Riley.
Lizzie F. Hassebroek,	Manhattan, Riley.
James W. Hawkes,	Banner, Trego.
Nellie Miller Hawkins,	Lincoln, Lincoln.
Nora Hays,	Manhattan, (Pottawatomie).
Eusebia Olive Helm,	Manhattan, Riley.
William Hemphill,	Pratt, Pratt.
Ira Baker Henthorn,	Burden, Cowley.
Jestie Lovinia Hepler,	Manhattan, Riley.
Oliver W. Hess,	Alma, Wabaunsee.
George William Hewins,	Valencia, Shawnee.
Anna Marie Hill,	Melvern, Osage.
Homer Richard Hillman,	Goodland, Sherman.
Lawson Edward Hillman,	Goodland, Sherman.

Name.	Post-office and county (or state).
W. Curtis Hitchner,	Centralia, Nemaha.
Ross Elmer Hoffman,	Manhattan, Riley.
William Warren Hole,	Washington, Washington.
Josie Holland,	Manhattan, Riley.
Arthur Holmes,	Carbondale, Osage.
William Avery Hopper,	Arkansas City, Cowley.
Fred Houser,	Oxford, Sumner.
Annice Howell,	North Topeka, Shawnee.
Catherine Hughes,	Topeka, Shawnee.
Nellie Dorothy Hughes,	Topeka, Shawnee.
David H. Hull,	Kiowa, Barber.
Ralph W. Hull,	Manhattan, Riley.
Wyllys Lyman Hull,	Milford, Geary.
Oswald Earl Hussa,	Burlington, Coffey.
Mary Mell Hutto,	Manhattan, Riley.
Archie Edward Immenschuh,	Wamego, Pottawatomie.
Harry A. Ireland,	Bronson, Bourbon.
Minnie Alice Ise,	Downs, Osborne.
Charles Jacobus,	Manhattan, Riley.
Marguerite James,	Bala, Riley.
Justin Claud Jardinier,	Madison, Greenwood.
Minnie Ora Jenkins,	Council Grove, Morris.
Adlear Garfield Johnson,	Fort Scott, Bourbon.
Elmer Johnson,	Latimer, Morris.
Ethel Johnson,	Solomon Rapids, Mitchell.
Roscoe Jeremiah Johnson,	Brainerd, Butler.
Edna Mary Jones,	Manhattan, Riley.
Elmer W. Jones,	Elk Falls, Elk.
Seneca Jones,	Bala, Riley.
Louis X. Jorgenson,	Greenleaf, Washington.
Chester G. Joy,	Cora, Smith.
Edith B. Justin,	Manhattan, Riley.
Miner M. Justin,	Manhattan, Riley.
Clyde Kendall,	Latimer, Morris.
William W. Kendall,	Tonganoxie, Leavenworth.
William Francis Kerr,	Idana, Clay.
Emory Murvin Kiger,	Burlington, Coffey.
Venus Kimble,	Keats, Riley.
Charles G. Kirgis,	Beloit, Mitchell.
Ada Klinefelter,	Cherryvale, Montgomery.
Walter A. Korb,	Hoxie, Sheridan.
Hans Hanson Krogh,	Jamestown, (Republic).
Edward Rudolph Kupper,	Kansas City, Wyandotte.
Clarence Lambert,	Hiawatha, Brown.
Albert Laravana Larson,	Marquette, McPherson.
Robert Gould Larzelere,	Wathena, Doniphan.
Lorin Wendell Lawson,	McPherson, McPherson.
Orville H. Legg,	McCune, Crawford.
Adah Lewis,	Blue Rapids, Marshall.
Bessie Lighthall,	Dwight, Morris.
Gertrude Lill,	Mounthope, Sedgwick.

Name.	Post-office and county (or state).
Fred R. Lindsey,	Frankfort, Marshall.
Hugh Logan,	Manhattan, Riley.
Ella Helena Long,	Soldier, Jackson.
Daisy Loomis,	Ionia, Jewell.
Edmund Franklin Loveless,	Antelope, Marion.
Nels Ludvickson,	Severy, Greenwood.
Bessie Lundberg,	Manhattan, Riley.
James A. Lupfer,	Larned, Pawnee.
Walter George McCarter,	Neodesha, Wilson.
Gussie McCormick,	Zeandale, Riley.
Cleveland McCoy,	Beattie, Marshall.
Myron J. McCray,	Manhattan, Riley.
Ethel McDonald,	Manhattan, Riley.
U. B. McGreevy,	Great Bend, Barton.
Ruth McKay,	Thayer, Neosho.
Olive R. McKeeman,	Soldier, Jackson.
Edna Annie McKeen,	Manhattan, Riley.
Irwin Clearnce McManis,	Manhattan, Riley.
Achsah Claire Mackey,	Topeka, Shawnee.
Robert Johnson Mackey,	Topeka, Shawnee.
Julius G. Maelzer,	Vermilion, Marshall.
Carl E. Mallon,	Ogden, Riley.
Frank P. Manny,	Winfield, Cowley.
Karl Manny,	Winfield, Cowley.
Eleanor March,	Manhattan, Riley.
James Webster March,	Manhattan, Riley.
Earl J. Margrave,	Reserve, Brown.
Phillip Edward Marshall,	Denison, Jackson.
Cleveland Taylor Martin,	Meriden, (Jackson).
Jessie Lou Marty,	Merriam, Johnson.
Chalmer A. Mather,	Manhattan, Riley.
Charles S. Merrifield,	Pawnee City, *Nebraska.*
Ella M. Meyer,	Riley, Riley.
Edward M. Miers,	Manhattan, Riley.
James Arthur Milham,	Waverly, Coffey.
Edgar S. Miller,	Derby, Sedgwick.
Nelson Arthur Miller,	Quinter, Gove.
Francis Burzley Milliken,	Hill City, Graham.
John G. Missildine,	Oxford, Sumner.
George A. Moffatt,	Clyde, Cloud.
Gertrude May Moore,	Pratt, Pratt.
Leona Estelle Moore,	Manhattan, Riley.
Loren Claire Morgan,	Cherryvale, Montgomery.
Orr O. Morrison,	Harrisonville, *Missouri.*
Heber Orla Munger,	Manhattan, Riley.
Mabel Murphy,	Manhattan, Riley.
Jacob Michael Murray,	Goff, Nemaha.
Bessie Myers,	Ogden, Riley.
Lucy Needham,	Lane, Franklin.
Don M. Neer,	Winfield, Cowley.
Rudolph B. Nelson,	Lindsborg, McPherson.

Name.	Post-office and county (or state).
Clarence Nevins,	Ford, Ford.
Orien James Newlin,	Coldwater, Comanche.
Bessie Minerva Nicolet,	Manhattan, Riley.
Christ G. Nielson,	Lincoln, Lincoln.
Ernest H. Niles,	Agricola, Coffey.
Guy D. Noel,	Valencia, Shawnee.
Ole J. Olsen,	Willis, Brown.
Arthur Leroy Olson,	Manhattan, (Geary).
Harry Oman,	Walsburg, Riley.
Burton Sylvester Orr,	Topeka, Shawnee.
William Oliver Orr,	Chase, Rice.
Floyd L. Osburn,	Peru, Chautauqua.
Joseph W. Painter,	Beverly, Lincoln.
William H. Parken,	Morrowville, Washington.
Arthur G. Parkhurst,	Newton, Harvey.
Eliphalet Thierer Patee,	Manhattan, Riley.
William Clarence Paul,	Blue Rapids, Marshall.
Warren Otis Perkins,	Kansas City, *Missouri.*
Charles F. Perry,	Manhattan, Riley.
Cyrus Arthur Perry,	Greenleaf, Washington.
Lora Perry,	Manhattan, Riley.
John Buell Peterson,	Wichita, Sedgwick.
William Pfrang,	Wetmore, Nemaha.
Carl Phillips,	Choteau, *Indian Territory.*
Valentine Louvina Pillsbury,	Manhattan, Riley.
Russell C. Porter,	Manhattan, Riley.
Morris David Powell,	Republic, Republic.
Emma Praeger,	Claflin, Barton.
Herman Albert Praeger,	Claflin, Barton.
Glenn Blaine Prichard,	Home, Marshall.
Webster McGee Putnam,	Richmond, Franklin.
Georgia Lily Quinn,	Manhattan, Riley.
Frank Randall,	Dalton, Sumner.
Alma Rose Randle,	Bala, Riley.
Elizabeth Randle,	Bala, Riley.
Lulu Mahala Rannells,	Manhattan, Riley.
Hiram R. Reed,	Centralia, Nemaha.
Arthur I. Reeves,	Almena, Norton.
William F. Reschke,	Pratt, Pratt.
Edward Richards,	Manhattan, Riley.
James Richards,	Manhattan, Riley.
Percy M. Roberts,	Clearwater, (Sumner).
Blanche Robertson,	Manhattan, Riley.
John Michael Ryan,	Muscotah, (Jackson).
Lawrence Guppy Sage,	Willard, Shawnee.
George Arthur Savage,	Meredith, Cloud.
Walter T. Scholz,	Frankfort, Marshall.
Martin William Schottler,	Emporia, Lyon.
Freeda Schubert,	Manhattan, Riley.
Viola Adeline Secrest,	Randolph, Riley.
Wilson George Shelley,	McPherson, McPherson.

Name.	Post-office and county (or state).
Rollie Shirley,	Perry, Jefferson.
Herbert B. Sieman,	Mankato, Jewell.
John Wesley Singleton,	Winchester, Jefferson.
Kate Minnie Sitterley,	Manhattan, Riley.
Curtis Avery Smith,	Manhattan, Riley.
Fred J. Smith,	Hamlin, Brown.
G. Wheeler Smith,	Manhattan, Riley.
Hallie M. Smith,	Manhattan, Riley.
Jay Latimer Smith,	Ozawkie, Jefferson.
Margaret Grace Smith,	Manhattan, Riley.
Ned Smith,	Manhattan, Riley.
Ruth Anna Smith,	Manhattan, Riley.
Luther Earle Snyder,	Manhattan, Riley.
Frank Sorgatz,	Concordia, Cloud.
Clarence A. Souders,	Manhattan, Riley.
H. Ernest Soulé,	Long Island, Phillips.
Agnes J. Soupene,	Manhattan, Riley.
Guy A. Speers,	Haddam, Washington.
Dora E. Stafford,	Leonardville, Riley.
Charley Stants,	Kensington, Smith.
Maurice I. Stauffer,	Randall, Jewell.
Herbert D. Strong,	Goddard, Sedgwick.
Charles Edward Stutzman,	McPherson, McPherson.
Lewis M. Sutton,	Emporia, Lyon.
Anna Swart,	Manhattan, Riley.
Agnes Taylor,	Abilene, Dickinson.
Irene Alma Taylor,	Chapman, Dickinson.
Robert Taylor,	Manhattan, Riley.
Alvah C. Thompson,	Hill City, Graham.
Carl E. Thompson,	Manhattan, Riley.
Harry M. Thompson,	Burrton, Harvey.
Willie Clide Thurlow,	Oxford, Sumner.
Earle Thurston,	Manhattan, Riley.
Oscar Tilley,	Frankfort, Marshall.
Merritt Rex Tinkham,	Manhattan, Riley.
Anna R. Tolin,	Soldier, Jackson.
Evelyn Tracy,	Alton, Osborne.
Allan Raymond Trobert,	Manhattan, Riley.
Chester Myrdth Turner,	Oakley, Logan.
May E. Umberger,	Hymer, Chase.
Lucy Faye VanEveren,	Manhattan, Riley.
Oscar Leroy Waage,	Leroy, Coffey.
Lloyd L. Wageman,	Manhattan, Riley.
Carroll Walker,	Frankfort, Marshall.
Lois Myrtle Walker,	Mankato, Jewell.
Virgil A. Walker,	Cawker City, Mitchell.
Mattie Alice Wallace,	Centralia, Nemaha.
Josephine Elizabeth Walter,	Overbrook, Osage.
Merton Luther Walter,	Overbrook, Osage.
Otto A. Warner,	Conway, McPherson.
Catherine E. Washington,	Manhattan, Riley.

Name.	Post-office and county (or state).
James R. Wear,	Barnard, Lincoln.
Adam Richard Weaver,	Waverly, Coffey.
Hall D. Webster,	Manhattan, Riley.
Charles Miller Weeks,	Lincoln, Lincoln.
Jessie Barbara Wells,	Luray, Russell.
Helen Clara Westgate,	Manhattan, (Geary).
Anna Jane Whipple,	Olivet, Osage.
Arthur Chase White,	Delphos, Ottawa.
Ida A. Williams,	Hull, Marshall.
Chloe May Willis,	Manhattan, Riley.
Vesta Williston,	Manhattan, Riley.
John Fay Wilson,	Jetmore, Hodgeman.
Lawrence Lyle Wilson,	Murdock, Butler.
Ray C. Wilson,	Murdock, Butler.
James Harlan Wolcott,	Garfield, Pawnee.
Nelle Wolf,	Manhattan, Riley.
Edwin S. Wolford,	Scandia, Republic.
Elsie Jane Wood,	Ogden, Riley.
Nellie Lunette Wreath,	Manhattan, (Pottawatomie).
Pollard Clyde Wreath,	Manhattan, (Pottawatomie).
William R. Yerkes,	Hutchinson, Reno.
Clifford C. Young,	Manhattan, Riley.
James Walter Zahnley,	Dwight, Morris.

PREPARATORY.

Krien Aeilts,	Inman, McPherson.
Mabel Catherine Aikin,	Tyner, Smith.
Howard Valdey Akin,	Manhattan, Riley.
James Dow Allen,	Fredonia, Wilson.
Marcus L. Almgren,	Manhattan, Riley.
Albion J. Anderson,	Manhattan, Riley.
Amelia Lillian Anderson,	Manhattan, Riley.
Hilma E. Anderson,	Manhattan, Riley.
Iva J. Anderson,	Mayetta, Jackson.
George Wesley Andes,	Shook, Harper.
Clarence Adron Andrews,	Rockport, Rooks.
Blanche Anthony,	Cummings, Atchison.
Dolly Anthony,	Cummings, Atchison.
Theodore E. Anthony,	Cummings, Atchison.
Stephen C. Arnold,	Moundridge, McPherson.
Charles Henry Arundel,	South Omaha, *Nebraska.*
Stella D. Avery,	Clay Center, Clay.
Charles Leslie Baird,	Valencia, Shawnee.
Dave Baird,	Morland, Graham.
Homer Emory Baker,	Washington, Washington.
Walter E. Baker,	Washington, Washington.
Lawrence Baldwin,	Baxter Springs, Cherokee.
Fred George Barker,	North Topeka, Shawnee.
Will A. Barker,	Agra, Phillips.
Frank Wesley Barr,	Escanaba, *Michigan.*
Walter Andrew Bartholf,	Kanona, Decatur.
Myrtle Bartlett,	Saint Marys, Pottawatomie.

Name.	Post-office and county (or state).
Jacob E. Basgall,	Pfeifer, Ellis.
Martin E. Basgall,	Pfeifer, Ellis.
Benjamin Franklin Bayles,	Manhattan, Riley.
Eugene Beard,	Manhattan, Riley.
Lillian Catherine Beeson,	Soldier, Jackson.
Inga Bentsen,	Willis, Brown.
George Henry Berenzen,	Desoto, Johnson.
Willard Berger,*	Ford, Ford.
Gustave Bergstedt,	Webber, Jewell.
Frank A. Bishop,	Blaine, Pottawatomie.
Myra Bixby,	McPherson, McPherson.
Mattie Boucher,	Manhattan, Riley.
John R. Boyle,	Saint Paul, Neosho.
Henry Earl Bradley,	Pawnee Rock, Pawnee.
William John Bramwell,	Ames, Cloud.
Glenn Brewster,	Thayer, Neosho.
John Arthur Broberg,	Lincoln, Lincoln.
Ella V. Brooks,	Tescott, Ottawa.
George William Brower,	Clay Center, Clay.
Emerald Ellsworth Brown,	Madison, Greenwood.
Ernest E. Brown,	Liberal, Seward.
Harry Wendelle Brown,	Virgil, Greenwood.
Ira Clyde Brown,	Herington, Dickinson.
Leonard Brown,	Manhattan, Riley.
Louis Brown,	Manhattan, Riley.
Max Brown,	Manhattan, Riley.
Wallace Bull,	Marysville, Marshall.
Dennis E. Burdick,	Beverly, Lincoln.
Henry Buss,	Udall, Cowley.
Harlan Butler,	Kingman, Kingman.
Thomas Butler,	Frankfort, Marshall.
Guy Marion Caldwell,	Garnett, Anderson.
Lulu Belle Carlat,	Auburn, Shawnee.
Hallie Blanch Carr,	Council Grove, Morris.
Charles Elmer Cassel,	Manhattan, Riley.
Sarah Elizabeth Cassel,	Manhattan, Riley.
James M. Chambers,	Oakland, Shawnee.
Leander D. Chatelain,	Harper, Harper.
Quince Andrew Circle,	Hazelton, Barber.
Villa Circle,	Hazelton, Barber.
Raymond B. Clemmons,	Manhattan, Riley.
Abe W. Cline,	Coffeyville, Montgomery.
Bessie Cole,	Manhattan, Riley.
James Robert Cole,	Moundridge, McPherson.
Clyde K. Conner,	Mitchell, Rice.
Mabelle E. Cook,	Junction City, Geary.
Leroy Coon,	Reserve, Brown.
Nelson F. Cornelius,	Rantoul, Franklin.
Alexander B. Cron,	Augusta, Butler.
Joseph Cudahy,	Hanover, Washington.

* Deceased.

Name.	Post-office and county (or state).
Richard J. Cummings,	Blaine, Pottawatomie.
Abrem Bentzley Currier,	Garnett, Anderson.
William R. Dannevik,	Edmond, Norton.
Ralph Miles Dart,	Newton, Harvey.
Eva L. Davidson,	Yates Center, Woodson.
Harold Seamans Davidson,	Council Grove, Morris.
Ottis C. Davies,	Bala, Riley.
Sadie Elizabeth Deibler,	Manhattan, Riley.
George C. Deissroth,	Wilson, Ellsworth.
Henry Clair Dennis,	Larned, Pawnee.
Mattie Dillon,	Lebo, Coffey.
Harry Ellsworth Disman,	Cherryvale, Montgomery.
Floyd Dixon,	Cora, Smith.
Ada Dodge,	Stockdale, Riley.
Eva Burneice Dodge,	Fairport, Russell.
A. L. Dodson,	Pratt, Pratt.
Maxwell C. Donley,	Powhattan, Brown.
Kate Dooley,	Bala, Riley.
George Downing,	Enon, (Harper).
Samuel Warren Duke,	Reece, Greenwood.
Alfred D. Eberstein,	Maize, Sedgwick.
Merrill R. Edelblute,	Keats, Riley.
Elizabeth Enlow,	Wamego, Pottawatomie.
Grace Enlow,	Wamego, Pottawatomie.
Emel T. Erikson,	Dwight, Geary.
Estella Evans,	Dodge City, Ford.
Howard Everley,	Glasco, Cloud.
Edwin C. Ewing,	Denison, Jackson.
Frank G. Falloon,	Hiawatha, Brown.
Walter Arthur Farner,	Leon, Butler.
Ray Warden Ferrell,	Utica, Ness.
Harry Fetrow,	Attica, Harper.
Byron Thomas Forbes,	Lebo, Coffey.
Minnie L. Forceman,	Vliets, Marshall.
Blanche Franklin,	Saint Clere, Pottawatomie.
John Charlie Franz,	Holycross, Pottawatomie.
Frank Pierce Freidline,	Caney, Montgomery.
Selwyn A. Frisbie,	Grantville, Jefferson.
Harry B. Fulker,	Oketo, Marshall.
Samuel Joseph Fuller,	Saint Louis, *Missouri.*
Claide Abraham Funk,	Homewood, Franklin.
John Earnest Funk,	Homewood, Franklin.
Joseph Furthmyer,	Gorham, Russell.
Eugene Gammon,	Ramah, *Colorado.*
George F. Gant,	Pratt, Pratt.
Jessie J. Gardner,	Chanute, Neosho.
W. K. Gardner,	Homewood, Franklin.
Roy E. Gaston,	Morrill, Brown.
Charles H. Giddings,	Burns, Marion.
Clair Vernon Gilbert,	Woodruff, Phillips.
Amos H. Gish,	Abilene, Dickinson.

Name.	Post-office and county (or state).
Ellen Josephina Gladd,	Stockholm, Wallace.
Daniel Albert Glenn,	Wamego, Pottawatomie.
Cora Mae Glick,	Summerfield, Marshall.
Ed Hanley Glover,	Mullinville, Kiowa.
Harry Ernest Gordon,	Germantown, Brown.
Ozro Milton Gould,	McLouth, Jefferson.
George L. Graves,	Kiowa, Barber.
Walter H. Grigsby,	Attica, Harper.
Gabriel Grosfield,	Oakley, Logan.
Hanna Grosfield,	Willis, Brown.
Leonora Grosfield,	Willis, Brown.
Edward Guild,	Washington, Washington.
Albert Habrnal,	Manhattan, Riley.
Ola Hadley,	Coldwater, Comanche.
Ethel Haller,	Burlingame, Osage.
David M. Hamilton,	Manhattan, (Pottawatomie).
Samuel Perry Hamilton,	Clay Center, Clay.
Ernest Hampson,	Osage City, Osage.
Clarence Henry Haney,	Courtland, Republic.
Alfred Charles Hansen,	Willis, Brown.
Anton Hanson,	Jamestown, Cloud.
Anna Grace Harrison,	Glenelder, Mitchell.
Melvin Harrison,	Glenelder, Mitchell.
Sarah Elmena Harrison,	Glenelder, Mitchell.
Walter L. Hart,	Crestline, Cherokee.
Edward Herman Hartfelder,	Leavenworth, Leavenworth.
Edward C. O. Hartke,	Lincolnville, Marion.
John Wesley Hartnett,	Stafford, Stafford.
Charles Harts,	Lyons, Rice.
F. Otto Hassman,	Manhattan, Riley.
Charlie C. Hastings,	Edgerton, Johnson.
George J. Haverkamp,	Grinnell, (Sheridan).
Arthur Raymond Hawkes,	Banner, Trego.
Joseph Morrow Hawks,	Hiawatha, Brown.
Alice Mabel Hazen,	Centralia, Nemaha.
John Felix Heldstab,	Holland, Dickinson.
Charles Heltman,	Webber, Jewell.
David Franklin Henderson,	Ottawa, Franklin.
Otto William Herde,	Holton, Jackson.
Arthur Charles Hillis,	Reading, Lyon.
Rees William Hillis,	Reading, Lyon.
Martin Anthon Hinrichs,	Saint Marys, Pottawatomie.
Vachel Glenn Hinton,	Anthony, Harper.
George F. C. Hoerner,	Manhattan, Riley.
Oscar William Hokanson,	Manhattan, Riley.
Barton Holland,	Topeka, Shawnee.
Edward C. Holley,	Horton, Brown.
Horace Holley,	Horton, Brown.
Ada Statira Holroyd,	Manhattan, Riley.
Horton Honnell,	Horton, Brown.
Avery Theardore Hoover,	Moonlight, Dickinson.

Name.	Post-office and county (or state).
Grover C. Hoppas,	Dresden, Decatur.
Mabel Luree Howe,	Emporia, Lyon.
Myrtle Clara Howe,	Emporia, Lyon.
Ella Cordelia Howell,	Manhattan, Riley.
James R. Howie,	Industry, Clay.
Charles Hubka,	Narka, Republic.
Ethel May Hudson,	Vinton, *Louisiana.*
Viola Arlettie Hudson,	Vinton, *Louisiana.*
Richard Albert Hugos,	Norway, Republic.
Pearl May Hull,	Kiowa, Barber.
Effa Mae Hutto,	Monument, Logan.
Orlando Delton Hutto,	Monument, Logan.
Alfred W. Isern,	Ellinwood, Barton.
Inez May Jackson,	Kidderville, Hodgeman.
Lee G. Jackson,	Kidderville, Hodgeman.
Rosetta James,	Bala, Riley.
Jessie Jenkins,	Council Grove, Morris.
Schuyler William Jenks,	Langdon, Reno.
Elmer C. Johnson,	Esbon, Jewell.
Emil Julius Johnson,	Axtell, Marshall.
Etta F. Johnson,	Leonardville, Riley.
George Johnson,	Fort Scott, Bourbon.
Harry C. Johnson,	Dwight, Morris.
Selma A. Johnson,	Axtell, Marshall.
David Morris Jones,	Washington, Washington.
Gertrude Helen Jones,	Argonia, Sumner.
John Albert Jones,	Manhattan, Riley.
Mary Lea Jones,	Wakefield, Clay.
Charles Judd,	Irving, Marshall.
Stella A. Kalivoda,	Cuba, Republic.
August Keining,	Donegal, Dickinson.
Everett Delmore Kelleher,	Olathe, Johnson.
Bruce Kennedy,	Mullinville, Kiowa.
H. Claude Kennedy,	Freeport, Harper.
Joseph Roy Kile,	Cairo, Pratt.
John Henry King,	Centralia, Nemaha.
Jacob Kippes,	Victoria, Ellis.
Foster Klous,	Junction City, Geary.
Willis Kramer,	Auburn, Shawnee.
James Peter Krehbiel,	Halstead, Harvey.
Gustav W. Kretzman,	Marysville, Marshall.
Louie Elizabeth Lantis,	Sedgwick, Harvey.
Lynn Leach,	Meade, Meade.
Bertha Bell Lewis,	Topeka, Shawnee.
James Edward Lewis,	Topeka, Shawnee.
Priscilla Lewis,	Manhattan, Riley.
Russell Lewis,	Mullinville, Kiowa.
John R. Lindburg,	Pittsburg, Crawford.
Calvin B. Lindsey,	Pomona, Franklin.
Charles Lipperd,	Oxford, Sumner.
Bert Lisk,	Lenexa, Johnson.

Name.	Post-office and county (or state).
Ray DeBra Logue,	Hutchinson, Reno.
William Farmer Long,	Soldier, Jackson.
Grace Maude Loomis,	Ionia, Jewell.
William F. Loper,	Norcatur, Decatur.
Everett Lukens,	Richland, Shawnee.
John Martin Lund,	Manhattan, Riley.
Elsie Lupher,	Linn, Washington.
Ernest McCall,	Washington, Washington.
William Thomas McCall,	Wakeeney, Trego.
Ervie McCallum,	Kansas City, Wyandotte.
William Holmes McCleary,	Beloit, Mitchell.
Leroy Merle McCowan,	Chilocco, *Oklahoma.*
Ray Collins McCoy,	Partridge, Reno.
Alexander McCrerey,	Hiawatha, Brown.
Scott Roger McDonald,	Manhattan, Riley.
Maude Odair McDowell,	Smith Center, Smith.
Robert McInnes,	Langley, Ellsworth.
Robert Guy McKee,	Home, Marshall.
C. A. McMillan,	Rosemont, Osage.
Owen Patrick McNulty,	Tonganoxie, Leavenworth.
William Clyde Macklin,	Fredonia, Wilson.
Pearl Madden,	Valley Falls, Jefferson.
Fred August Maier,	Manhattan, Riley.
Jacob Mans,	Hanover, Washington.
Arthur A. Marks,	Saint Clere, Pottawatomie.
Walter D. Marriott,	Manhattan, Riley.
William Woods Marriott,	Holton, Jackson.
Otto F. Marrs,	Meade, Meade.
Charles Avery Martin,	Norwood, Franklin.
John Edward Martin,	Waverly, Coffey.
Roy Willis Martin,	Waverly, Coffey.
Harry H. Matkin,	Bucklin, Ford.
Jessie C. Mayhew,	Belpre, Edwards.
Mabel Mayhew,	Belpre, Edwards.
Irving Mayor,	Horton, Brown.
Edgar Clyde Mead,	Dexter, Cowley.
William W. Melville,	Winfield, Cowley.
Ernest Sterling Melvin,	Eminence, Finney.
Arden Lee Messick,	Oakley, Logan.
Ada Miley,	Elliott, Sheridan.
Clyde William Miller,	Newton, Harvey.
Eliza Ann Miller,	Vining, Clay.
Viola May Miller,	Vining, Clay.
Roy V. Mitchell,	Groveland, McPherson.
Mabel E. Moffatt,	Clyde, Cloud.
Frank Moody,	Lenexa, Johnson.
Raymond Morton Moody,	Lenexa, Johnson.
Clifton Moore,	Cedarvale, Cowley.
Henry William Morell,	Osage City, Osage.
David Karl Morris,	Ottawa, Franklin.
George Morris,	Council Grove, Morris.

Name.	Post-office and county (or state).
Luther Morrison,	Parsons, Labette.
M. Edith Morrow,	Waterville, Marshall.
Edna Anna Munger,	Manhattan, Riley.
Glenn G. Murphy,	Lyons, Rice.
Franklin Andrew Myers,	Belleville, Republic.
Thomas B. Naylor,	Morrowville, Washington.
Gustaf Mauritz Nelson,	Falun, Saline.
Julia Nelson,	Montrose, Jewell.
Rachel Nelson,	Montrose, Jewell.
Arthur Newcombe,	Great Bend, Barton.
Bertha Kiowa Newlin,	Coldwater, Comanche.
Carl Homer Nixon,	Oxford, (Cowley).
Leroy Oldfather,	Maize, Sedgwick.
Henry Clark Oliver,	Burlingame, Osage.
Marie Olsen,	Willis, Brown.
Ed Olson,	Osage City, Osage.
Nena Olson,	Kiowa, Barber.
Daniel O'Neill,	Hoyt, Jackson.
David Lawerence Orendorff,	Manhattan, Riley.
Neoma Parker,	Linn, Washington.
Ray H. Parker,	Long Island, Phillips.
Bessadell Parks,	Manhattan, Riley.
Matin Luther Parsons,	Ada, Ottawa.
John Howard Payne,	Randall, Jewell.
Severance Pedroja,	Hamilton, Greenwood.
Wayne M. Pence,	Selden, Sheridan.
Nathan Peterson,	Beloit, Mitchell.
Raleigh Peterson,	Junction City, Geary.
Arthur Benjamin Pincomb,	Merriam, Johnson.
Beulah Pitman,	Manhattan, Riley.
Fred Winter Pontius,	Lawrence, Douglas.
Louis Miles Pope,	Waverly, Coffey.
Alpha Inez Porter,	Manhattan, Riley.
Earl Porter,	Beloit, Mitchell.
George Allison Porter,	Manhattan, Riley.
Bertram Emanuel Prather,	Manhattan, Riley.
Ivard Deane Prather,	Tonovay, Greenwood.
James J. Price,	Emporia, Lyon.
Bertha Pringle,	Eskridge, Wabaunsee.
Aaron Purdy,	Arkansas City, Cowley.
Daniel Milton Purdy,	Arkansas City, Cowley.
Thomas Jefferson Ragland,	Topeka, Shawnee.
Charles Ragsdale,	Smith Center, Smith.
William J. Raleigh,	Windom, McPherson.
Clara Reed,	Wakefield, (Riley).
Hallie Reed,	Saint Clere, Pottawatomie.
Harry Reiff,	Russell, Russell.
Harry S. Reynolds,	Burroak, Jewell.
Oliver Willes Reynolds,	Paola, Miami.
Warren E. Rice,	Gypsum, Saline.
Lucy Elizabeth Ridgeway,	Whiting, Jackson.

Name.	Post-office and county (or state).
Estella May Rigg,	Kirwin, Phillips.
Floyd T. Robeson,	Galena, Cherokee.
Arthur Robinson,	Great Bend, Barton.
Clifford Robinson,	Sedgwick, Harvey.
Frank Robinson,	Great Bend, Barton.
Robert Leroy Root,	Lyons, Rice.
Archie Andrew Roseboom,	Girard, Crawford.
Donald Ross,	Independence, Montgomery.
Worth D. Ross,	Manhattan, Riley.
Thomas J. Rouse,	Selden, Sheridan.
James David Rymph,	Harper, Harper.
John Wesley Rymph,	Harper, Harper.
Ollie Sage,	Willard, Shawnee.
Roy Sage,	Delphos, Ottawa.
Clarence W. Sanders,	Osage City, (Lyon).
Federico Sarabia,	Manhattan, Riley.
John Schlaefli,	Cawker City, Mitchell.
Henry W. Schmidler,	Marysville, Marshall.
Joseph F. Schnell,	Vesper, Lincoln.
Rient G. Schoonhoven,	Riley, Riley.
Richard Schuppert,	Arrington, Atchison.
Coleman E. Selbe,	Phillipsburg, Phillips.
Howard I. Sellers,	Tisdale, Cowley.
Henry Seng,	Salina, Saline.
George H. Shank,	Salina, Saline.
Henry Shank,	Saint John, Stafford.
James S. Shea,	Blaine, Pottawatomie.
Fred Shields,	Bucyrus, Johnson.
Amelia Shimek,	Cuba, Republic.
Gilbert H. Shoemaker,	Centerville, Linn.
Oliver Shomber,	Homewood, Franklin.
Ross Lorain Shunk,	Hutchinson, Reno.
Ella May Whitehead Simair,	Manhattan, Riley.
Thomas Clifford Simpson,	Canton, McPherson.
Jay Sitterley,	Manhattan, Riley.
Lois A. Sitterley,	Manhattan, Riley.
Charles Franklin Slusser,	Osage City, Osage.
E. Lulu Smith,	Hamlin, Brown.
Frank C. Smith,	Circleville, Jackson.
Ira Davis Smith,	Saint Clere, Pottawatomie.
Ralph Edwin Snapp,	Belleville, Republic.
James William Snodgrass,	Barrett, Marshall.
Luther O. Solt,	Zeandale, Riley.
Talmage Solt,	Manhattan, Riley.
Carroll J. Spain,	Beloit, Mitchell.
Charles Clyde Spangler,	Auburn, Shawnee.
George H. Spark,	Topeka, Shawnee.
Alma Spaulding,	Esbon, Jewell.
Glenn Spears,	Homewood, Franklin.
Ernest Spurlin,	Norton, Norton.
Pearl K. Steck,	Manhattan, Riley.

Name.	Post-office and county (or state).
Miller Didama Steever,	Fort Riley, Geary.
James O. Stephan,	Winchester, Jefferson.
Frank Stipe,	Elbing, Butler.
Jesse Dow Stoddard,	Manhattan, Riley.
Walter Straton,	Rosedale, Wyandotte.
Herbert C. Strom,	Dwight, Morris.
Durward Stuber,	Wilmot, Cowley.
William James Sturgeon,	Manhattan, Riley.
Clarence A. Stutzman,	McPherson, McPherson.
Ida Mae Stutzman,	McPherson, McPherson.
Jerry P. Sullivan,	Ulysses, Grant.
Elton C. Swingle,	Manhattan, Riley.
Pearl Evert Talley,	Richland, (Douglas.)
Charles E. Tede,	Rantoul, Franklin.
Thomas Victor Terbush,	Potwin, Butler.
Sadie Isabelle Thackrey,	Kansas City, Wyandotte.
Alvin J. Thedick,	Waterville, Marshall.
Viola Jeannette Thompson,	Harveyville, Wabaunsee.
Louise B. Throbeck,	Norway, Republic.
Charles A. Thummel,	Esbon, Jewell.
Hattie B. Thurlow,	Oxford, Sumner.
Archie Nolen Townsend,	Manhattan, Riley.
Clark Travelute,	Marysville, Marshall.
Maude May Trobert,	Manhattan, Riley.
Ethel Stone Truxal,	Hoisington, Barton.
Robert B. Turner,	Fowler, Meade.
Bernard Lee Ulrich,	Manhattan, Riley.
Goldie C. Vandivar,	Saint Marys, Pottawatomie.
George DeRosier VanEveren,	Manhattan, Riley.
Clarence Dudley Vawter,	Topeka, Shawnee.
Elwood L. Walker,	Dresden, Decatur.
Viva Alice Walker,	Mankato, Jewell.
Dale Owen Wanamaker,	Blue Rapids, Marshall.
Florence Edith Ward,	North Topeka, Shawnee.
Jasper Leland Warren,	Webber, Jewell.
John Monroe Washburn,	Topeka, Shawnee.
Elsie May Waymire,	Frankfort, Marshall.
Ethel Elnora Wear,	Barnard, Lincoln.
Clarence Robert Wemple,	Oatville, Sedgwick.
Louise M. Wertenberger,	Waterville, Marshall.
Frank Giles West,	Silverlake, Shawnee.
Mabel Whitelock,	Manhattan, Riley.
Charles William Wilch,	Richland, Shawnee.
Harry E. Wilkinson,	Topeka, Shawnee.
Harrison Walter Wilkison,	Dwight, Morris.
Clark Williams,	Ashton, Sumner.
George Alfred Williams,	Windom, McPherson.
Heber Williams,	Ashton, Sumner.
James J. Williams,	Home, Marshall.
Lloyd D. Willis,	Manhattan, Riley.
Bruce S. Wilson,	Manhattan, Riley.

Name.	Post-office and county (or state).
Carol E. Wilson,	Eatonville, Cowley.
Norman F. Wilson,	Oberlin, Decatur.
Alvin Ernest Wise,	Lawrence, Douglas.
Bertha Beatrice Wood,	Manhattan, Riley.
Nannie D. H. Woodbury,	Broughton, Clay.
Charles W. Wynkoop,	Atchison, Atchison.
Fred W. Yaw,	Willis, Brown.
Stuart Smith Young,	Manhattan, Riley.
Loren Zook,	Atchison, Atchison.

SPECIAL STUDENTS.

Zelma Ackley,	Portis, Osborne.
Atwood N. H. Beeman,	Manhattan, Riley.
Laurence B. Brink,	Manhattan, Riley.
Raymond W. Brink,	Manhattan, Riley.
Mary Brookens,	Harlan, Smith.
Delwin Morton Campbell,	Meriden, Jefferson.
Reppie Carey,	Manhattan, Riley.
W. L. Chilcott,	Mankato, Jewell.
(Mrs.) Mattie E. Clark,	Pomona, Franklin.
Leslie D. Connell,	Altoona, Wilson.
Cas Nelson Estes,	Stafford, Stafford.
David Emerson Gall,	Reserve, Brown.
Margaret Helen Haggart,	Topeka, Shawnee.
Bessie Isabel Hudson,	Manhattan, Riley.
C. R. Huggins,	Wamego, Pottawatomie.
Kathryn Kelly,	Colby, Thomas.
Andrew DeLos McCampbell,	Manhattan, Riley.
Archie E. Moore,	Manhattan, Riley.
Louie Grace Morgan,	Smith Center, Smith.
(Mrs.) Lena Davis Paull,	Manhattan, Riley.
Laura Christine Paulsen,	Manhattan, Riley.
Leo W. Phillips,	Helena, *Montana*.
Adeline Poston,	Emporia, Lyon.
Margaret Isabel Ritner,	Manhattan, Riley.
John E. Robert,	Meade, Meade.
Lora Rorabaugh,	Smith Center, Smith.
Luella Rorabaugh,	Smith Center, Smith.
Jay F. Ross,	Manhattan, Riley.
Lloyd H. Simpson,	Manhattan, Riley.
Milton David Snodgrass,	Manhattan, Riley.
Arthur H. Thompson,	Manhattan, Riley.
Fred Lawrence Williams,	Olpe, Lyon.
Thomas M. Wood,	White City, Morris.

DAIRY SHORT COURSE.

Willis Ernest Berg,	Cleburne, Riley.
Frank Milton Brown,	Rosalia, Butler.
Thomas Jefferson Coulter,	Wichita, Sedgwick.
Grover C. Decker,	Blue Mound, Linn.
Clide Girod,	Towanda, Butler.
Renie Girod,	Towanda, Butler.

Name.	Post-office and county (or state).
Stephen Samuel Lard,	Manhattan, Riley.
Andrew DeLos McCampbell,	Manhattan, Riley.
Ernest McGuire,	Fairmount, Leavenworth.
John Charles Malone,	Raymond, Rice.
Calbert M. Richardson,	Moline, Elk.
Lewis Schoch,	Wichita, Sedgwick.
Gilbert H. Shoemaker,	Centerville, Linn.
Joseph Peter Trageser,	Horton, Brown.
Barton R. Thompson,	Cora, Smith.
Henry B. Vorse,	Wilsey, Morris.

FARMERS' SHORT-COURSE—SECOND TERM.

Eppa Cleveland Ausherman,	Elmont, Shawnee.
Clarence Blackler,	Elmont, Shawnee.
George Henry DeWyke,	Randolph, Riley.
Edward Ellsworth Ford,	Moran, Allen.
Charles Harts,	Lyons, Rice.
Robert Jordan,	Caldwell, Sumner.
George Kaad,	Jamestown, Cloud.
Ernest J. Palmer,	Geuda Springs, Cowley.
William Elbridge Poor,	Chapman, Dickinson.
Wilford David Porter,	Bloomington, Phillips.
Gwilym Thomas Protheroe,	Lebo, Coffey.
George H. Shank,	Salina, Saline.
Earl E. Shupe,	Arkansas City, Cowley.
Anshelm J. Strom,	Dwight, Morris.
Floyd Ivan Tinsley,	Canton, McPherson.
Albert L. Tombaugh,	Athol, Smith.
John Edward Wiese,	Spearville, Ford.
Charles M. Wilke,	Troy, Doniphan.
David H. Zuck,	Manhattan, Riley.

FARMERS' SHORT-COURSE—FIRST TERM.

Carl Aeilts,	Inman, McPherson.
Theodore Aeilts,	Inman, McPherson.
Bert B. Anderson,	Bigelow, Marshall.
Stephen C. Arnold,	Moundridge, McPherson.
Charles E. Baldwin,	Ada, Ottawa.
Jay Bardshar,	Mounthope, Sedgwick.
Arthur Randall Bentley,	Valhalla, Gove.
Francis M. Black,	Kincaid, Anderson.
David Brown,	Kanona, Decatur.
Charles T. Bull,	Cimarron, Gray.
Harry L. Burnett,	Arkansas City, Cowley.
Harlan Butler,	Kingman, Kingman.
Tom Ford Capsey,	Soldier, Jackson.
Roy B. Carter,	Wathena, Doniphan.
Charles Casement,	Sedan, Chautauqua.
L. A. Christopher,	Hutchinson, Reno.
Ernest M. Clark,	Pomona, Franklin.
Walter Cleary,	DuQuoin, (Kingman).
James Robert Cole,	Moundridge, McPherson.

Name.	Post-office and county (or state).
Leslie D. Connell,	Altoona, Wilson.
William A. Cooney,	Mayetta, Jackson.
R. H. Cortelyou,	Caldwell, Sumner.
William P. Daws,	Tyner, Smith.
Joseph J. Doherty,	Morrowville, Washington.
Frank W. Dull,	Washington, Washington.
Clarence Elder,	Cherryvale, Labette.
Alvin Eshelman,	Acme, Dickinson.
Adrain L. Faivre,	Clay Center, Clay.
Selwyn A. Frisbie,	Grantville, Jefferson.
George C. Gardner,	Chanute, Neosho.
Arthur Gatewood,	Circleville, Jackson.
Walter William Goddard,	Minneapolis, Ottawa.
Roy Raymond Goodin,	Derby, Sedgwick.
Frank Elmer Groves,	Reading, Lyon.
Charles Elmer Hall,	Kensington, Smith.
Fred A. Hardacre,	Smith Center, Smith.
Charles A. W. Haseltine,	Manhattan, Riley.
George J. Haverkamp,	Grinnell, Sheridan.
Frank Vincent Hawley,	Belpre, Edwards.
Claude L. Hendricks,	Glenelder, Mitchell.
Oliver W. Hess,	Alma, Wabaunsee.
Louie Hildebrand,	Ellinwood, Barton,
Charles Marcus Horner,	Havana, Montgomery.
Glenn Huss,	Mounthope, Sedgwick.
Alfred W. Isern,	Ellinwood, Barton.
Edward T. P. Iverson,	Atchison, Atchison.
Victor Albin Jasperson,	Scranton, Osage.
Walter Scott Jensen,	Agra, Phillips.
Samuel E. Johnson,	Leonardville, Riley.
James Joyce,	Saint Marys, Pottawatomie.
Frank Kelchner,	Holton, Jackson.
John M. Kugler,	Abilene, Dickinson.
Philip Lang,	Plevna, Reno.
Budd Lantz,	Thrall, Greenwood.
Lynn Leach,	Meade, Meade.
Joseph Lebeda,	Caldwell, Sumner.
Oscar Linder,	Randolph, Riley.
Curtis Lindsey,	Frankfort, Marshall.
William Farmer Long,	Soldier, Jackson.
Coy Lupher,	Linn, Washington.
John W. McConnell,	Cherryvale, Labette.
John H. McCort,	Anson, Sumner.
John R. McCune,	Longford, Clay.
Homer B. McFadden,	Maize, Sedgwick.
Walter S. McManis,	Rome, Sumner.
Walter Lester Mercer,	Arkansas City, Cowley.
William L. Meuser,	Anson, Sumner.
George Miller,	Milford, Geary.
William Reed Moody,	Harper, Harper.
William A. Moss,	Lincoln, Lincoln.

Name.	Post-office and county (or state).
Oliver G. Nelson,	Riley, Riley.
Glenn B. Oldfather,	Maize, Sedgwick.
Nels Victor Olson,	Wonderly, Saline.
Charles King Paul,	Pauline, Shawnee.
Henry Pelesky,	Haddam, Washington.
Arthur D. Perry,	Oskaloosa, Jefferson.
Edwin Henry Peter,	Randolph, Riley.
Dale L. Prather,	Tonovay, Greenwood.
Walter M. Price,	Wamego, Pottawatomie.
Edgar Harris Ramsour,	Dwight, Morris.
Carl Arthur Rumph,	Barclay, Osage.
James David Rymph,	Harper, Harper.
August W. Seng,	Salina, Saline.
John Sessler,	Uniontown, Bourbon.
William Shank,	Saint John, Stafford.
G. C. Shaw,	Haddam, Washington.
Ira Jay Shockley,	Tipton, Mitchell.
Harold L. Snoddy,	Burlingame, Osage.
Edward F. Stein,	Junction City, Geary.
Homer Charles Stevenson,	Beverly, Lincoln.
David O. Tate,	Luray, Russell.
Frank A. TenEyck,	Manhattan, Riley.
Ransom H. Tinkham,	Manhattan, Riley.
Everett W. Titterington,	Lawrence, Douglas.
Omer Herren Todd,	Coldwater, Comanche.
Earle R. Trout,	Pratt, Pratt.
Lee L. Urquhart,	Wamego, Pottawatomie.
Truman West Wadsworth,	McCune, Cherokee.
Fred Watts,	Havensville, Pottawatomie.
Waldo Whitman,	Lawrence, Douglas.
Curtis Adolphus Whitton,	Kiowa, Barber.
Thomas Williams,	Hull, Marshall.
Pete C. Young,	Belvue, Pottawatomie.

DOMESTIC SCIENCE SHORT-COURSE—SECOND TERM.

Lucy M. Ashcraft,	Manchester, Dickinson.
Gertrude Crippen,	Council Grove, Morris.
Eva L. Davidson,	Yates Center, Woodson.
Nellie June Doane,	Manhattan, Riley.
Minnie L. Forceman,	Vliets, Marshall.
Grace Evelyn Gardner,	Homewood, Franklin.
Bessie Isabel Hudson,	Manhattan, Riley.
Hattie E. Jones,	Manhattan, Riley.
Emma Rosetta Lane,	Kansas City, Wyandotte.
Alvena McCoy,	Meriden, Jefferson.
Viola Mae Martin,	Garnett, Anderson.
Mable E. Moffatt,	Clyde, Cloud.
Nona Estella Moore,	Cherryvale, Montgomery.
Birdie Peckham,	Haven, Reno.
Frances Zoe Rhoades,	Gardner, Johnson.
Hattie J. Schoonover,	Haven, Reno.

Name.	Post-office and county (or state).
Lou Belle Shirley,	Perry, Jefferson.
Elsie Annette Uhl,	Gardner, Johnson,
Grace Voiles,	Manhattan, Riley.

DOMESTIC SCIENCE SHORT-COURSE—First Term.

Elsie V. Anderson,	Randolph, Riley.
Emily Josephine Baker,	Protection, Comanche.
Bertha Inez Braman,	Agra, Phillips.
Anna Barbara Brant,	Wichita, Sedgwick.
Sadie Burr,	Manhattan, Riley.
Esther M. Casper,	Vliets, Marshall.
Amanda C. Christianson,	Corning, Nemaha.
Bertha Cook,	Russell, Russell.
Bessie Crandall,	Newton, Harvey.
Ella Florence DeWyke,	Randolph, Riley.
Jessie Honnell,	Horton, Brown.
Pearl May Hull,	Kiowa, Barber.
Agnes Jenista,	Caldwell, Sumner.
Edna Johnson,	Vliets, Marshall.
Esta Keller,	Horton, Brown.
Kathryn Kelly,	Colby, Thomas.
Maude Kimball,	Topeka, Shawnee.
Lizzie Kuchar,	Caldwell, Sumner.
Anna Lofstedt,	Herington, Dickinson.
Kathrina Nielson,	Lincoln, Lincoln.
Kittie Mabel Norris,	Burdett, Pawnee.
(Mrs.) Mary Smith Paddock,	Manhattan, Riley.
Lillian Plumb,	Whiting, Jackson.
Adeline Poston,	Emporia, Lyon.
Leala Rich,	Emporia, Lyon.
Sada Hart Shuler,	Halstead, Harvey.
Jennie E. Smith,	Topeka, Shawnee.
Anna C. Throbeck,	Norway, Republic.
Minnie VanPatten,	Centralia, Nemaha.
Ina Dale Ware,	Manhattan, Riley.
Maude Williams,	Haven, Reno.
Inze Mary Worswick,	Oskaloosa, Jefferson.

APPRENTICES IN SHOPS.

Hawley Howard Akin,	Manhattan, Riley.
Spencer Amann,	North Topeka, Shawnee.
Walter J. Amann,	Topeka, Shawnee.
Winfield Scott Armstrong,	Topeka, Shawnee.
Neil C. Balderson,	Louisville, Pottawatomie.
G. Homer Brown,	Arkansas City, Cowley.
Edmund Buckley,	Ames, Cloud.
Walter W. Carlson,	Mingo, Thomas.
Phyletus D. Chambers,	Oakley, Logan.
William Truman Clark,	Haven, Reno.
Edgar Hamilton Dearborn,	Silverlake, Shawnee.
Geo. C. Deissroth,	Wilson, Ellsworth.

Name.	Post-office and county (or state).
Theodore Fruechting,	Aulne, Marion.
Walter W. Gillespie,	Buffalo, Wilson.
John V. Goodsheller,	McPherson, McPherson.
Leroy Taylor Halbert,	Solomon, Dickinson.
Joseph H. Harlin,	Tonganoxie, Leavenworth.
Frank M. Hotchkiss,	Manhattan, Riley.
Harry Ancil Kennedy,	Lawrence, Douglas.
H. Claude Kennedy,	Freeport, Harper.
James L. Kennedy,	Lawrence, Douglas.
Orrin O. Kennedy,	Lawrence, Douglas.
Nathaniel Lagerstrom,	Axtell, Marshall.
Calvin B. Lindsey,	Pomona, Franklin.
Emmet Leroy Locke,	Riley, Riley.
Mark E. McColm,	Emporia, Lyon.
Charles E. McLaughlin,	Newton, Harvey.
Charles E. McMillan,	Plymouth, Lyon.
Adolphus M. Mater,	Chanute, Neosho.
Roy V. Mitchell,	Groveland, McPherson.
John Will Montgomery,	Alta Vista, (Geary).
Elmer A. Palmer,	Cleburne, Riley.
George Piper,	Emporia, Lyon.
Leslie Victor Ryther,	Topeka, Shawnee.
Walter Alvin Simpson,	Manhattan, Riley.
John Wesley Singleton,	Winchester, Jefferson.
David W. Socolofsky,	Tampa, Marion.
Jacob Socolofsky,	Tampa, Marion.
Frank T. Spencer,	Gypsum, Saline.
Chester A. Steele,	Manhattan, Riley.
John Stegaman,	Dresden, Decatur.
Karl VanSickle,	Green, Clay.
Andrew Charles Wenger,	Russell, Russell.
Walter W. Wessen,	Topeka, Shawnee.
Axel Robert Widegren,	Clay Center, Clay.
Arthur Ward Willits,	Kensington, Smith.

BOILER AND ENGINE APPRENTICES.

Dave Baird,	Morland, Graham.
Isaac N. Buckley,	Aurora, Cloud.
Charles Caldwell,	Kincaid, Anderson.
Frank Henry Clayton,	Windom, McPherson.
Lew. Rex Gilbert,	Manhattan, Riley.
Samuel Perry Hamilton,	Clay Center, Clay.
Charles A. Harter,	Independence, Montgomery.
Samuel Arthur Hicks,	Beloit, Mitchell.
Alfred Johansen,	Codell, Rooks.
E. W. Lindquist,	Falun, Saline.
C. A. McMillan,	Rosemont, Osage.
John W. Munson,	Atchison, Atchison.
Charles Potter,	Broughton, Clay.
Hugo Schild,	Hanover, Washington.
Charles Schultzik,	Manhattan, Riley.

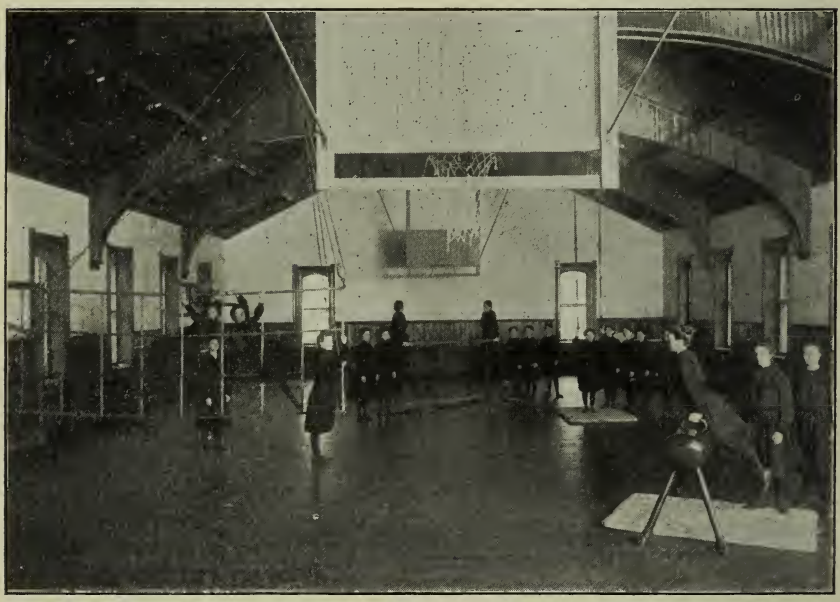
Name.	Post-office and county (or state).
Francis Ralph Wicks,	Hunnewell, Sumner.
Clark Williams,	Ashton, Sumner.
Edward J. Young,	Paola, Miami.

APPRENTICES IN PRINTING.

Albert J. Dodson,	Manhattan, Riley.
Louie Grace Morgan,	Smith Center, Smith.
Jesse Dow Stoddard,	Manhattan, Riley.

APPRENTICES IN DAIRYING.

Ralph Cooley,	Manhattan, Riley.
Perry Hazzard,	Mounthope, Sedgwick.
W. C. Henderson,	Council Grove, Morris.
Stephen Samuel Lard,	Manhattan, Riley.
Solomon Whitney,	Manhattan, Riley.



WOMEN'S GYMNASIUM.

SUMMARY.

Classes.	*Men.*	*Women.*	*Totals.*
Graduate	10	10	20
Senior	75	39	114
Junior	110	51	161
Sophomore	148	58	206
Freshman	259	144	403
Preparatory	337	106	443
Special	19	14	33
Dairy	16	.....	16
Farmers' Short Course	122	.....	122
Domestic Science Short Course	.....	51	51
Apprentices	71	1	72
Counted twice	28	8	36
Totals	1,139	466	1,605

From ninety-three counties of Kansas, 1579.

From eleven other states, 26.

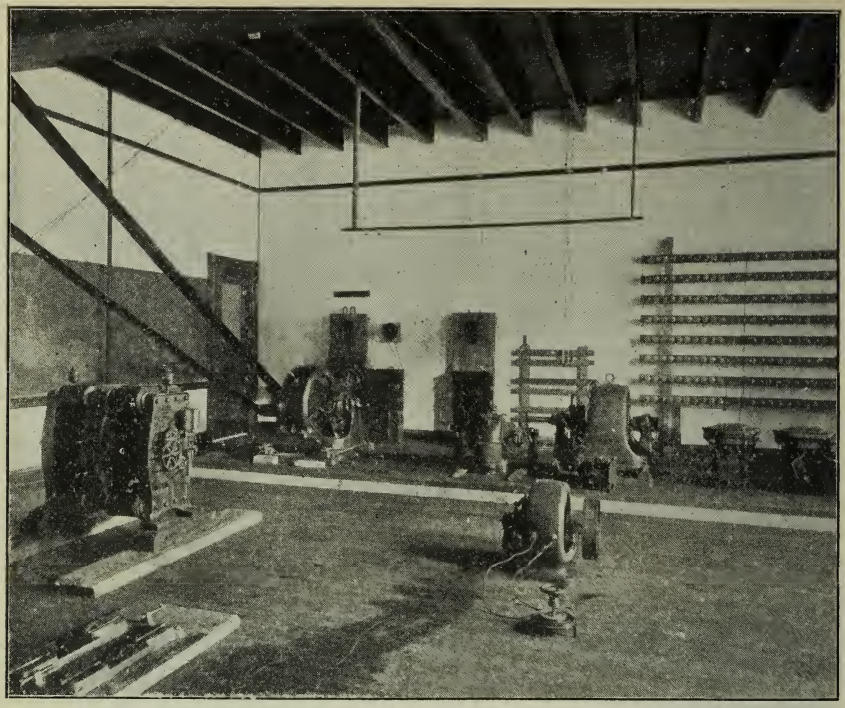
RECORD OF ATTENDANCE, 1879–1904.

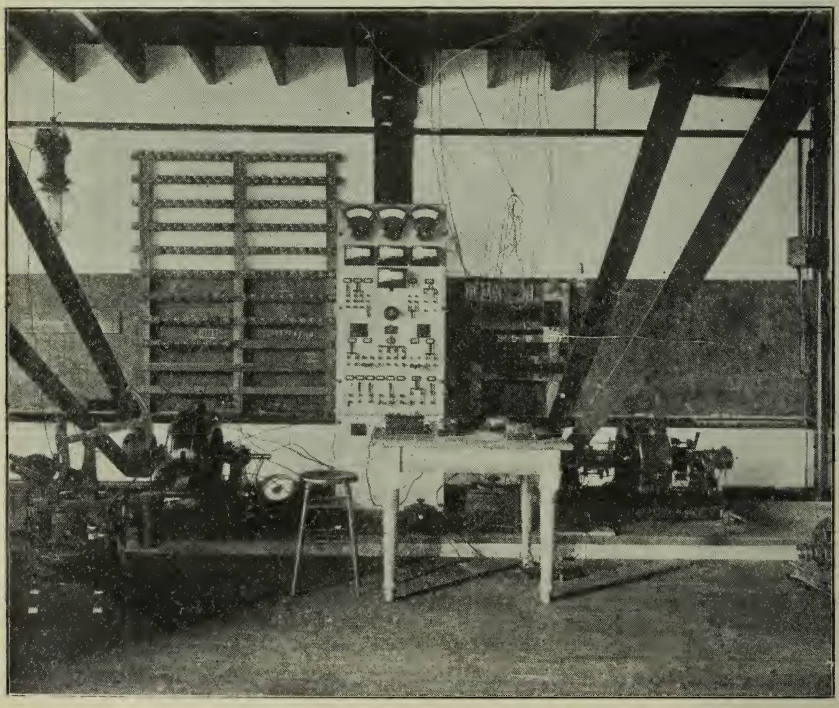
College Year.	Domestic science short course	Farmers' short course	Dairy	Apprentice	Special	Preparatory*	First year	Second year	Third year	Fourth year	Postgraduate	Counted twice	Total	Graduated
1878-79	.....	.....	...	...	1	.....	89	89	16	12	.....	...	207	9
1879-80†	.....	.....	...	...	1	.....	166	61	35	11	2	...	276	7
1880-81‡	.....	.....	...	...	6	.....	178	48	24	9	2	...	267	8
1881-82	.....	.....	...	...	5	.....	227	50	19	11	.....	...	312	9
1882-83	.....	.....	...	...	4	.....	241	60	30	12	.....	...	347	12
1883-84	.....	.....	...	...	2	.....	255	92	26	18	2	...	395	17
1884-85	.....	.....	...	...	2	.....	271	71	36	16	5	...	401	14
1885-86	.....	.....	...	...	1	.....	273	91	35	24	4	...	428	21
1886-87	.....	.....	...	...	...	.....	303	100	44	24	10	...	481	21
1887-88	.....	.....	...	...	...	.....	305	92	46	27	2	...	472	22
1888-89†	.....	.....	...	...	...	.....	266	103	41	28	7	...	445	25
1889-90	.....	.....	...	...	1	.....	307	105	63	28	10	...	514	27
1890-91†	.....	.....	...	...	...	.....	343	135	50	53	12	...	593	52
1891-92	.....	.....	...	...	...	.....	336	139	62	37	10	...	584	35
1892-93	.....	.....	...	...	...	.....	339	110	66	43	29	...	587	39
1893-94	.....	.....	...	...	...	.....	275	141	72	42	25	...	555	39
1894-95	.....	.....	...	...	5	.....	276	108	89	64	30	...	572	57
1895-96	.....	.....	...	...	3	.....	353	121	67	71	32	...	647	66
1896-97*	.....	.....	...	...	6	67	321	163	69	62	46	...	734	55
1897-98	.....	.....	6	9	15	77	316	174	77	82	57	10	803	69
1898-99	.....	.....	26	35	40	110	306	177	92	65	40	21	870	53
1899-00†	24	47	57	50	32	162	376	163	109	69	27	22	1,094	58
1900-01	47	109	72	79	23	318	348	183	80	74	40	52	1,321	69
1901-02	41	125	66	87	19	298	396	206	120	65	32	59	1,396	53
1902-03	63	123	38	78	36	342	471	229	141	86	24	57	1,574	54
1903-04†	51	122	16	72	33	443	403	206	161	114	20	36	1,605	...

* Previous to 1896–'97 the preparatory students were not listed separately from the first-years.

† Requirements for admittance raised.

‡ Course strengthened.





ELECTRICAL ENGINEERING LABORATORY.

Graduates.

This list is made from the best data obtainable. A favor will be conferred by notifying the College Secretary of any errors or changes.

1867.

Henry L. Denison, A. M., 1257 Clarkson street, Denver, Colo. Official court stenographer.
Belle M. (Haines) Pond, A. M., 1821 Clay street, Topeka, Kan. Housewife.
Emma L. (Haines) Bowen, A. M., Manhattan, Kan. Housewife.
John J. Points, A. M., Omaha, Neb. Lawyer.
Martha A. (White) Abbott, A. M., 288 Oakley boulevard, Chicago, Ill. Housewife.

1871.

Emily M. (Campbell) Robinson, A. B. Died in 1877.
Ella F. (Denison) Whedon, A. B., 1845 D street, Lincoln, Neb. Housewife.
Luella M. Houston, A. B., Denver, Colo. Music teacher.
Charles O. Whedon, B. S., 1845 D street, Lincoln, Neb. Lawyer.
Kate E. (White) Turley, A. B., 973 Jackson boulevard, Chicago, Ill. Housewife.

1872.

Theophania M. (Haines) Huntington, A. B. Died in 1880.
Albert Todd, A. M., Washington, D. C. Major artillery corps, assistant adjutant-general, United States army.
S. Wendell Williston, A. M., M. D., Ph. D., Chicago, Ill. Professor of paleontology in the University of Chicago.

1873.

Eliza R. (Davis) Stringfield, A. B., 1111 Santee street, Los Angeles, Cal. Housewife.
Sam Kimble, A. B., Manhattan, Kan. Judge twenty-first district.

1874.

Harry A. Brous, A. M., M. D., Manhattan, Kan. Physician.
Edgar F. Clark, A. B.
John E. Davis, B. S., D. D. S., 1143 Oak street, Columbus, Ohio. Dentist.
William D. Gilbert, A. B.
A. Judson White, A. B., 288 Oakley boulevard, Chicago, Ill. Minister.

1875.

Reuben E. Lofinck, B. S., Manhattan, Kan. Merchant.
Alice E. (Stewart) Points, A. M. Teacher.

1876.

George A. Gale, A. B., Mangona, Fla. Merchant and postmaster.
Ella M. (Gale) Kedzie, A. B., Lansing, Mich. Teacher of art.
Nellie (Sawyer) Kedzie-Jones, M. S., Kalamazoo, Mich. Housewife.
Carrie M. Kimball, A. B., Garden Grove, Cal. Art instructor.
Minerva E. (Whitman) Heiser, A. B., Lyndon, Kan. Housewife.

1877.*

Ella S. Child, Manhattan, Kan. Dressmaker.
George H. Failyer, M. S., Washington, D. C. Scientist in bureau of soils, United States Department of Agriculture.
John S. Griffing, M. S., Manhattan, Kan. Farmer.
Walter C. Howard, Ione, Amador county, California. Minister.
Frederick O. Hoyt, M. D. Died in 1884.
Louis E. Humphrey, Chapman, Kan. Druggist.
James F. La Tourette, Sitka, Alaska. Assistant, Sitka Industrial Training School.
Marion F. Leasure, LL. B., La Cygne, Kan. Lawyer.
William Ulrich, M. S., St. Louis, Mo. Contractor.

1878.*

Albert N. Godfrey, M. S., box 272, Port Townsend, Wash. Deputy collector, United States customs service.
Charles S. McConnell. Died in 1902.
George S. Platt. Died in 1878.
Amos E. Wilson, Leavenworth, Kan. Banker.

1879.*

Arthur T. Blain, Duarte, Cal. Nurseryman.
Etta (Campbell) Blain, Duarte, Cal. Housewife.
Wilmer K. Eckman, Longview, Tex. Bank cashier.
Corvin J. Reed, St. Clere, Kan. Farmer.
Harry C. Rushmore, 2028 North Fifth street, Kansas City, Kan. Traveling salesman for Norvell-Shapleigh Hardware Company.
Wm. H. Sikes, Leonardville, Kan, Merchant and grain dealer.
Lewis A. Salter, Carmen, Okla. Lawyer.
Ella (Vincent) McCormick, Broughton, Kan. Bookkeeper.
Clarence E. Wood, A. B., Cherokee, Okla. Editor.

1880.*

Augustine Beacham.
Lizzie R. (Cox) Kregar, 503 W. First street, Junction City, Kan. Housewife.
Emma (Hoyt) Turner, Peru, Ill. Housewife.
Emma (Knostman) Huse, Manhattan, Kan. Housewife.
Grace (Parker) Perry, Pocatello, Idaho. Housewife.
Noble A. Richardson, San Bernardino, Cal. Merchant.
Marie E. (Sickels) Davis, Chicago, Ill. Housewife.

1881.*

Flora (Donaldson) Reed, St. Clere, Kan. Housewife and journalist.
Ulysses Grant Houston, Amherst, Mass. Lecturer.
Fletcher M. Jeffery, 611, 612, New York block, Seattle, Wash. Lawyer.
William J. Jeffrey. Died in 1900.
Darwin S. Leach.
William J. Lightfoot, Montrose, Colo. Assistant engineer, United States Geological Survey.

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*B. S. has been granted all graduates since 1877.

Dalinda (Mason) Cotey, 210 W. First South street, Logan, Utah. Dean of school of domestic science and arts, State Agricultural College of Utah.

Wirt S. Myers, P. O. box 796, Pensacola, Fla. Pattern-maker in department of steam engineering, United States navy-yard.

1882.*

J. Chester Allen. Died in 1885.

Ida (Cranford) Sloan, care of bureau of animal industry, Fort Worth, Tex. Housewife.

Edward V. Cripps.

Warren Knaus, M. S., McPherson, Kan. Editor and publisher of *Democrat.*

Mattie E. (Mails) Coons, Manhattan, Kan. Housewife.

Allie S. (Peckham) Cordry, 337 South Eleventh street, Salina, Kan. Housewife.

Belle (Selby) Curtice, 604 American Bank building, Kansas City, Mo. Housewife.

Burton L. Short, 330 North Seventh street, Kansas City, Kan. Assistant postmaster.

John A. Sloan, Fort Worth, Tex. Bureau of animal industry, United States Department of Agriculture.

1883.*

James W. Berry, Jewell, Kan. Lumberman and contractor; Regent Kansas State Agricultural College.

Mary C. (Bower) Ady, Romulus, Okla. Housewife.

Lewis W. Call, LL. M., D. C. L., 1660 Sheridan avenue, Washington, D. C. Chief clerk, judge-advocate general's office, United States War Department.

Emma E. Glossop, 1108 Faraes street, St. Joseph, Mo. Teacher.

William J. Griffing, R. F. D. No. 1, Manhattan, Kan. Farmer and fruit-grower.

Phœbe E. Haines, M. S., Manhattan, Kan. At home.

Hortense L. (Houston) Martin, Miami, I. T. Housewife.

Jacob Lund, M. S., Manhattan, Kan. Superintendent of heat and power department, Kansas State Agricultural College.

Katie I. (Meguire) Sheldon, Riverside, Cal. Housewife.

J. Dana Needham, Lane, Kan. Merchant.

Milan T. Ward, M. D., Toulon, Ill. Physician.

Julius T. Willard, M. S., Manhattan, Kan. Professor of chemistry, Kansas State Agricultural College; director Experiment Station.

1884.*

Emmett S. Andress, Lakin, Kan. Farmer.

Florence J. Brous, Kansas City, Kan. Teacher in high school.

Bartholomew Buchli, M. S., D. V. S., Alma, Kan. Farmer and stockman.

John H. Calvin, LL. B. Died in 1898.

William A. Corey.

Henry M. Cottrell, M. S., Odebolt, Iowa. Superintendent of experimental farm.

Carrie F. (Donaldson) Brown. Died in 1902.

Florence A. Donaldson. Died in August, 1888.

Frank W. Dunn, Topolobampa, Sinaloa, Mexico.

I. Day Gardiner. Died in 1899.

Edwin H. Kern, 537 Main street, Grand Junction, Colo. Civil and hydraulic engineer.

Marion M. Lewis. Died in 1895.

---

*B. S. has been granted all graduates since 1877.

Charles L. Marlatt, M. S., 1440 Massachusetts avenue, N. W., Washington, D. C. Entomologist in charge of experimental field-work, United States Department of Agriculture.
Lincoln H. Neiswender, Silver Lake, Kan. Farmer.
Geo. C. Peck, Junction City, Kan. Grain buyer, and agent of Midland Elevator Company.
Hattie L. (Peck) Berry, Jewell, Kan. Housewife.
John W. Shartel, Oklahoma City, Okla. Lawyer.

1885.*

Thomas Bassler, R. F. D. No. 2, Ponca City, Okla. Farmer.
Albert Deitz, 720 West Twenty-first street, Kansas City, Mo. Merchant.
Geo. E. Hopper, M. S., Arkansas City, Kan. Contractor.
Florence F. Hough, Great Bend, Kan.
Frank A. Hutto, M. S., Ph. D., Stillwater, Okla. Professor of history and political economy, Oklahoma Agricultural and Mechanical College.
J. Allen Lewis, M. S., C. E., 328 Fourth street, Brooklyn, N. Y. Civil engineer.
Nellie J. Murphy, South Denver, Colo. Trained nurse.
Arthur L. Noyes, R. F. D. No. 1, Zeandale, Kan. Farmer.
Clarence D. Pratt, 297 Elm street, Dallas, Tex. Dealer in paints and wall-paper.
Rollin R. Rees, Minneapolis, Kan. Attorney.
Frederick J. Rogers, M. S., Stanford University, Cal. Assistant professor of physics, Leland Stanford Jr. University.
Dorothy E. C. (Secrest) Hungerford, Randolph, Kan. Housewife.
Grace L. Wonsetler, M. D., Verbeck, Kan Physician.
Effie E. (Woods) Shartel, Oklahoma City, Okla. Housewife.

1886.*

Lillie B. Bridgman, M. S., corner Sixteenth and Utah streets, San Francisco, Cal. Teacher of physics, California School of Mechanical Arts.
Louis P. Brous, M. S., 2289 Apastado, Mexico City, Mexico. Supervising architect, International Packing Company.
Paul Halsted Fairchild, M. D., 160 William street, New York city. President of Pulvola Chemical Company.
Abbott M. Green, Lookout, Modoc county, California. Civil engineer and teacher.
James G. Harbord, M. S., Manila, P. I. Captain Eleventh cavalry, colonel and assistant chief, Philippine constabulary.
John U. Higinbotham, 205 La Salle street, Chicago, Ill. Cashier of National Biscuit Company.
Maria C. (Hopper) Getty, Downs, Kan. Housewife.
E. Ada (Little) MacEwan, 314 Elm street, Kalamazoo, Mich. Housewife.
Frank L. Parker, Hutchinson, Kan. Merchant.
Edward H. Perry, Oklahoma City, Okla. Editor and publisher.
H. Augustus Platt. Died in 1903.
Ada H. (Quinby) Perry, Oklahoma City, Okla. Housewife.
Ida H. (Quinby) Gardiner, 1514 Laguna street, Santa Barbara, Cal. Housewife.
Minnie Reed, M. S., 1515 N. Main street, Santa Ana, Cal. Teacher in high school.
David G. Robertson, 153 La Salle street, Chicago, Ill. General manager of Chicago branch of the Provident, Security and Trust Company.
Edward O. Sisson, Peoria, Ill. Director Bradley Polytechnic Institute.

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*B. S. has been granted all graduates since 1877.

John W. Van Deventer, Sterling, Colo. County assessor.
George W. Waters, Dillon, Colo. Ranchman.
William E. Whaley, 117 Maroon Heights, Chicago, Ill. Instructor at Chicago University.
F. Henrietta (Willard) Calvin, Manhattan, Kan. Professor of domestic science, Kansas State Agricultural College.
John L. Wise, Pocahontas, Ill. Dealer in hay and live stock.

1887.*

Edgar A. Allen, Carlisle, Pa. Assistant superintendent and principal of Carlisle Indian School.
Fred H. Avery. Died in 1896.
Claude M. Breese, M. S., Manhattan, Kan. County clerk.
John B. Brown, M. S., Morris, Minn. Superintendent of Morris Indian Training School.
Walter J. G. Burtis, R. F. D. No. 2, Fredonia, Kan. Farmer and stock-breeder.
Mark A. Carleton, M. S., Washington, D. C. Cerealist in bureau of plant industry, United States Department of Agriculture.
Nellie E. (Cottrell) Stiles, Fullerton, Cal. Housewife.
Bert R. Elliott, Dawson City, British Yukon Territory. Miner.
Frederick B. Elliott, Manhattan, Kan. Real-estate and insurance agent.
Clara M. Keyes, Warner, Cal. Teacher.
Fred. G. Kimball, St. Michaels, Alaska. Miner.
Frederick A. Marlatt, Manhattan, Kan. Proprietor Blue Valley Manufacturing Company.
William J. McLaughlin, Randolph, Utah. Editor.
Mary E. Moses, Manhattan, Kan. At home.
Charles A. Murphy, Nickerson, Kan. Editor and proprietor of the *Argosy*.
Orlando G. Palmer, LL. M., Camp Geo. H. Thomas, Chickamauga Park, Ga. Second lieutenant, Seventh United States cavalry.
Louis B. Parker. Died in 1889.
James E. Payne, M. S., R. F. D. No. 3, Fort Collins, Colo. Field agent for Colorado Experiment Station.
Seward N. Peck, Railway Exchange building, corner Michigan avenue and Jackson street, Chicago, Ill. Chief car-draftsman for Santa Fe system.
George N. Thompson, Belmond, Iowa. Mechanic.
Willis M. Wright, Jennings, La. Assayer in oil refinery.

1888.*

Grant Arnold, Toledo, Wash. General merchandise and house furnishings.
Bertha H. Bacheller, M. S., 4124 Campbell street, Kansas City, Mo. Director of domestic science, manual-training high school.
Clement G. Clarke, Plainville, Conn. Pastor of Congregational church.
Alexander C. Cobb, Wagoner, I. T. Farmer and carpenter.
Mattie (Cobb) Clarke, Plainville, Conn. Housewife.
Minnie H. Cowell, Steyning, Sussex, England. Trained nurse.
Lyman H. Dixon, 36 E. Twentieth street, New York city. Architect.
David G. Fairchild, M. S., Washington, D. C. Agricultural explorer, United States Department of Agriculture.
Carl E. Friend, Soldier, Kan. Lumberman, and Regent Kansas State Agricultural College.

---

*B. S. has been granted all graduates since 1877.

John R. Harrison, Federal building, Kansas City, Mo. Chief post-office inspector.
Humphrey W. Jones, 1251 Lincoln street, Topeka, Kan. Principal of Branner school.
Nathan E. Lewis, 14 Croton avenue, Newcastle, Pa. Draftsman.
Abby L. Marlatt, M. S., 261 Benefit street, Providence, R. I. Assistant principal, technical high school, department of household economics.
William C. Moore, Parsons, Kan. Editor and publisher.
Ernest F. Nichols, 417 W. One hundred and Eighteenth street, New York, N. Y. Professor of experimental physics at Columbia University.
Harry E. Robb, Eureka, Kan. Farmer and county surveyor.
Anna Snyder, Kansas City, Kan. Teacher in School for Blind.
Edwin H. Snyder, 2924 Gallup avenue, Denver, Colo. Editor and publisher.
Oliver L. Utter, 1902 Freeman avenue, Cincinnati, Ohio. Minister.
Aaron Walters. Died in 1892.
Lora L. (Waters) Beeler, M. S., Glen Ellyn, Ill. Housewife.
Daniel W. Working, jr., Harman, Colo. Farmer.

1889.*

Emma A. Allen. Died in 1891.
Joseph W. Bayles, A. B., Onaga, Kan. Minister.
Walter R. Browning, Padonia, Kan. Grain dealer.
David E. Bundy, Braman, Okla. Minister.
Samuel S. Cobb, Wagoner, I. T. Postmaster and stockman.
Judson H. Criswell, Oswego, Kan. Foreman on Deming ranch.
Mattie I. (Farley) Carr, Conconully, Okanogan county, Washington. Principal of schools.
Clarence E. Freeman, M. S., E. E., Chicago, Ill. Director of department of electrical engineering, Armour Institute of Technology.
Hattie L. (Gale) Sanders, Mangona, Fla. Housewife.
John S. Hazen, 876 N. Jefferson street, Springfield, Mo. Observer, United States weather bureau. (In charge.)
Albert B. Kimball, Scandia, Kan. Editor.
William Knabb, Hiawatha, Kan. Cashier First National Bank.
Mary C. Lee, Manhattan, Kan. At home.
Alonzo A. Mills, Fullerton, Cal. Nurseryman.
Susan W. Nichols, 724 North Twenty-third street, St. Joseph, Mo. Clerk at Washburn music store.
Walter H. Olin, M. S., Ames, Iowa. Assistant in agronomy, Iowa State College of Agriculture and Mechanic Arts.
Eli M. Paddleford, A. B., S. T. B., Birmingham, Kan. Minister.
Maude F. (Sayers) DeLand, lock box 390, Pittsburg, Pa. Housewife.
Florine (Secrest) Linderman, Willow Glen, San Jose, Cal. Housewife.
Stanley Snyder, Oskaloosa, Kan. Farmer.
Charles W. Thompson, D. D. S., Holton, Kan. Dentist.
Jane C. Tunnell, Joliet, Ill. Instructor in English, Joliet township high school.
Ina M. (Turner) Bruce, St. Louis, Mo. Housewife.
Robert U. Waldraven, Julian, Neb. Minister.
Henry S. Willard, M. D., Manhattan, Kan. Physician and druggist.

*B. S. has been granted all graduates since 1877.

1890.*

Samuel I. Borton, Olive street, Lamar, Colo. Agriculturist, American Beet Sugar Company.
Frank A. Campbell, Highlands, Colo. Reporter.
Arthur Fulton Cranston, 1531 Stevens avenue, Parsons, Kan. Lawyer.
John Davis, Alva, Okla. Professor of English, Northwestern Normal School.
Grant W. Dewey, 68 Thirty-sixth street, Chicago, Ill. With Conway Paving Company.
Charles J. Dobbs, 321–323 Lumber Exchange building, Seattle, Wash. Lawyer.
Charles W. Earle, 1942–1948 Curtis street, Denver, Colo. Advertising agent.
Schuyler C. Harner, Keats, Kan. Merchant.
John W. Ijams, Harlem, Mont. Farmer in United States Indian service.
Bertha S. (Kimball) Dickens, M. S., Manhattan, Kan. Housewife.
Eusebia (Knipe) Curtis, 841 Garfield avenue, Kansas City, Kan. Housewife.
Nellie P. (Little) Dobbs, 321–323 Lumber Exchange building, Seattle, Wash. Housewife.
Ellsworth Thomas Martin, LL. B., 1110 Ashland block, Chicago, Ill. Lawyer.
Silas C. Mason, M. S., Berea, Ky. Professor of horticulture and biology, Berea College.
Wilton L. Morse, Mancos, Colo. Farmer.
Albert E. Newman, Watonga, Okla. County superintendent and editor.
Julia R. Pearce, Washington, D. C. Assistant in the soil survey, bureau of soils, United States Department of Agriculture.
Emil C. Pfuetze, Manhattan, Kan. Lumber dealer.
William H. Sanders, Mangona, Fla. Plumber and builder.
Emma Secrest, A. M. Died in 1898.
Marie Barbara (Senn) Heath, M. S., 420 Bellevue avenue, Seattle, Wash. Housewife.
Ralph Snyder, Oskaloosa, Kan. Farmer and stockman.
George E. Stoker, A. B., 611 Kansas avenue, Topeka, Kan. Lawyer.
Walter T. Swingle, M. S., 3317 Seventeenth street, N. W., Washington, D. C. Physiologist, bureau of plant industry, United States Department of Agriculture.
Gilbert J. VanZile. Died in 1899.
Harry N. Whitford, M. S., Ph. D., bureau of government laboratories, Manila, P. I. Collector in botany under insular government of Philippine islands.
Thomas E. Wimer. Died in 1890.

1891.*

William Aaron Anderson, 4218 W. Prospect Place, Kansas City, Mo. Manager of Pacific Coast lumber and shingle department of Long-Bell Lumber Company.
William Sherman Arbuthnot, D. V. S., Lebanon, Kan. Veterinary surgeon and druggist.
Herman William Avery, Wakefield, Kan. Farmer and horse-raiser.
Judd Noble Bridgman, M. S., Lee's Summit, Mo. Civil engineer.
Robert James Brock, Manhattan, Kan. Lawyer and county attorney.
Francis Charles Burtis, M. S., Stillwater, Okla. Professor of agriculture, Oklahoma Agricultural and Mechanical College.
Charles Albert Campbell, 2123 Lafayette street, Denver, Colo. Minister.
Spencer Norman Chaffee. Student medical college.

*B. S. has been granted all graduates since 1877.

Clay Ephraim Coburn, M. D., 422 North Fourth street, Kansas City, Kan. Physician.

Gertrude Coburn, 422 North Fourth street, Kansas City, Kan. At home.

Tina Louise (Coburn) Tomson, 114 North Seventeenth street, Cedar Rapids, Iowa. Housewife.

Rachel Callie (Conwell) Thoburn, Oklahoma City, Okla. Housewife.

Christine Mossman Corlett, Guthrie, Okla. Teacher.

Mary Emmeline (Cottrell) Payne, M. S., R. F. D. No. 3, Fort Collins, Colo. Housewife.

Phil Sheridan Creager, 3409 McGee street, Kansas City, Mo. Wholesale flour, biscuits and produce merchant.

Kary Cadmus Davis, M. S., Ph. D., Menominee, Wis. Principal Dunn county school of agriculture and domestic economy.

Thomas Clarke Davis, Benedict, Kan. Field manager for Orient Oil and Gas Company.

Helen Pearl (Dow) Peck, 269 Marlborough Road, Brooklyn, N. Y. Housewife.

Anna (Fairchild) White, 624 West Fern avenue, Redlands, Cal. Housewife.

Harry Benson Gilstrap, Chandler, Okla. Editor, publisher, and postmaster.

Almon Arthur Gist, Fort Riley, Kan. Clerk, quartermaster's office. (Civilian.)

Amy Myrtle (Harrington) Deibler, Leadville, Colo. Housewife.

Delpha May (Hoop) Montgomery, Tampa, Kan. Housewife.

Mayme Amelia (Houghton) Brock, Manhattan, Kan. Housewife.

Willis Wesley Hutto, Manhattan, Kan. Teacher in city schools.

George Victor Johnson, Cedarvale, Kan. Farmer.

Frank Mullett Linscott, D. V. S., Farmington, Kan. Farmer.

Bessie Belle Little, Philadelphia, Pa. Teacher of physical culture, Bryn Mawr College.

Albert Edward Martin, B. A., 510 North Elizabeth street, Peoria, Ill. Telephone engineer.

Nellie Evangeline (McDonald) Thayer. Died in 1902.

David Collins McDowell, Elkton, Colo. Solicitor and collector for Colorado Trading and Transfer Company.

Alfred Midgley, Delphos, Kan. Lumberman.

Madeleine Wade Milner, DeKalb, Ill. Librarian, State Normal School.

Paul Chambers Milner, Carbondale, Ill. Farmer.

Harry Elbridge Moore, Billings, Okla. Receiver of bankrupt stock of hardware and implements.

John Otis Morse, Mound City, Kan. Lawyer, and clerk of district court.

Hattie May Noyes, R. F. D. No. 1, Zeandale, Kan. Teacher; graduate student, Kansas State Agricultural College.

Louise (Reed) Paddleford, Birmingham, Kan. Housewife.

Artemus Jackson Rudy, Fresno, Cal. Fruit-raiser.

Henry Vernon Rudy, Fresno, Cal. Fruit-raiser.

Charlotte Jane (Short) Houser, M. S., [B. S. Dickinson College, Carlisle, Pa.,] Reedsville, Pa. Housewife.

Ben Skinner, M. D., Granada, Kan. Physician.

Caroline Scott (Stingley) Van Blarcom. Died in 1899.

Lillian Alice (St. John) Williams, 841 Osage avenue, Kansas City, Kan. Housewife.

Ellis Cheney Thayer, 2477 Dunkeld Place, Denver, Colo. Manual-training teacher in high school.

Sam L. Van Blarcom, M. D., 817 Garfield avenue, Kansas City, Kan. Railway postal clerk.
Frank Albert Waugh, M. S., Amherst, Mass. Professor of horticulture in Massachusetts Agricultural College.
Fannie Elizabeth (Waugh) Davis, M. S., Menominee, Wis. Housewife.
Flora Emilie Wiest, Manhattan, Kan. Teacher in city schools.
Bertha (Winchip) Spilman, 324 Fifth street, S. E., Washington, D. C. Housewife.
Alfred Orrin Wright, Lake Charles, La. Farmer.
Effie Jeanetta Zimmerman, M. S., Moray, Kan. At home.

1892.

Grace Maria Clark, M. S. Died in 1904.
George L. Clothier, M. S., M. F., Washington, D. C. Field assistant, bureau of forestry, United States Department of Agriculture.
Lillian Clyde Criner, McPherson, Kan. Editor and publisher of *Opinion*.
Harry A. Darnall, Lent's suburb, Portland, Ore. Teacher and farmer.
William H. Edelblute, Rathdrum, Idaho. County surveyor and fruit-grower.
Elizabeth (Edwards) Hartley, Manhattan, Kan. Housewife.
John Frost, Schroyer, Kan. Farmer.
Effie (Gilstrap) Frazier, Chandler, Okla. Clerk in post-office.
Ava (Hamill) Tillotson, M. S., Newton, Kan. Teacher.
J N Harner. Died in 1897.
Loyall S. Harner, 213 South Fourth street, Colorado Springs, Colo. Expressman.
Charles Pinckney Hartley, M. S., Washington, D. C. Assistant in bureau of plant industry, United States Department of Agriculture.
John William Abraham Hartley, Manhattan, Kan. Farmer.
James Laird McDowell, McCammon, Idaho. Farmer.
Robert A. McIlvaine, Topeka, Kan., general delivery. Teacher at Willard, Kan.
Kate (Oldham) Sisson, care Ohio State University, Columbus, Ohio. Housewife.
Daniel Henry Otis, M. S., Oswego, Kan. Superintendent of Deming stock ranch.
Ivan Bryan Parker, M. D., Grant's Pass, Ore. Physician and surgeon; president Graham County State Bank, Hill City, Kan.; president Applegate Boom and Lumber Company, Grant's Pass, Ore.
Warner S. Pope. Died in 1899.
Burton Homer Pugh, drawer C, Topeka, Kan. Nurseryman and produce shipper.
Elias W. Reed, M. D.
Robert Stirling Reed.
Arthur Daniel Rice, Oketo, Kan. Minister.
Fred C. Sears, M. S., Wolfville, Nova Scotia. Director of provincial school of horticulture.
Birdie E. Secrest, Beloit, Kan. Instructor in domestic science, Kansas State Industrial School for Girls.
May Secrest, 162 West Tenth avenue, Columbus, Ohio. Associate professor of domestic art, Ohio State University.
Ruth Tipton (Stokes) Sears, M. S., Wolfville, Nova Scotia. Housewife.
Harry W. Stone, Portland, Ore. General secretary Y. M. C. A.
Walter Percival Tucker, Aguascalientes, Aguas, Mexico. Accountant.
Mary Alice (Vail) Waugh, Amherst, Mass. Housewife.
Robert Lynn Wallis. Died in 1895.
Ora Rebecca (Wells) Traxler, Irving, Kan. Housewife.

Daniel F. Wickman, post-office box 107, Topeka, Kan. Nurseryman.
George Washington Wildin, Washington, D. C. Consulting mechanical engineer for Southern railway.
Charles Ernest Yeoman. Died in 1902.

1893.*

Edmund Clarence Abbott, Santa Fe, N. M. District attorney.
Edwin McMaster Stanton Curtis, 1300 Pennsylvania avenue, Washington, D. C. Rate clerk, general passenger office, Southern railway.
Corinne Louise (Daly) Burtis, Stillwater, Okla. Housewife.
Laura Greeley Day, Menominee, Wis. Instructor of domestic economy, Dunn county school of agriculture and domestic economy.
Ione (Dewey) Sutherland, 3744 Lake avenue, Chicago, Ill. At home.
Albert Dickens, M. S., Manhattan, Kan. Professor of horticulture, Kansas State Agricultural College.
Mary Maud Gardiner, M. S., Stillwater, Okla. Professor of domestic science, Oklahoma Agricultural and Mechanical College.
Susie (Hall) Linscott, Farmington, Kan. Housewife.
Mary Frances Burgoyne Harman, 903 Minnesota avenue, Kansas City, Kan. Teacher of drawing, Kansas City high school.
Ivy Frances Harner, M. S., Ruston, La. Professor of domestic science, Louisiana Industrial Institute.
Margaretha Elise Horn, D. O., 874 Porter street, Detroit, Mich. Professor of botany, Western high school.
Marcia Ione Hulett, D. O., 1208 New England building, Cleveland, Ohio. Osteopathic physician.
Mac F. Hulett, D. O., 62 Wheeler building, 5½ West Broad street, Columbus, Ohio. Osteopathic physician.
Fred Hulse, Manhattan, Kan. Carpenter.
Charles Augustus Kimball, Courtland, Kan. Editor and lawyer.
Maud Ethel Knickerbocker, Lead, S. Dak. Teacher.
Thomas Eddy Lyon, LL. B., 110½ North Fifth street, Springfield, Ill. Lawyer.
William Otis Lyon, West Philadelphia shops, Pennsylvania railway, Philadelphia, Pa. Clerk.
McLeod Wilson McCrea, Winchester, Kan. Teacher.
Rose Edith McDowell, Elkton, Colo. At home.
George Lane Melton, ———
Eusebia DeLong (Mudge) Thompson, Marysville, Kan. Housewife.
Nora (Newell) Hatch, R. F. D. No. 2, Manhattan, Kan. Housewife.
August Fred. Niemoller, Wakefield, Kan. Miller.
Susie Amanda Noyes. Died in 1894.
Henry Leamer Pellett, D. O., R. F. D. No. 4, Eudora, Kan. Registered Red Polled cattle.
Charles John Peterson, Randolph, Kan. Farmer.
Carl Frederic Pfuetze, Manhattan, Kan. Lumber dealer.
John Dewitt Riddell, M. D., Enterprise, Kan. Physician.
John Albert Rokes, M. S., Holton, Kan. Lawyer.
Agnes (Romick) Edgar, Honcut, Cal. Housewife.
Fred Raymond Smith, Manhattan, Kan. Lawyer and court stenographer.
George Wildman Smith, M. D., Manhattan, Kan. Physician.

* B. S. has been granted all graduates since 1877.

William Elmer Smith, 814 New York Life building, Kansas City, Mo. Lawyer.
John Eugene Thackrey, 2746 Belleview avenue, Kansas City, Mo. Minister.
Joseph B. Thoburn, Oklahoma City, Okla. Secretary Oklahoma Territorial Board of Agriculture.
Charles Henry Thompson, M. S., St. Louis, Mo. In charge of the succulent plants of the Missouri Botanical Garden.
George K. Thompson, Marysville, Kan. County superintendent.
William James Yeoman, Mankato, Kan. Merchant and horse-breeder.

1894.*

Frank Weber Ames, 519 Carnegie building, Pittsburg, Pa. Clerk Carnegie Steel Company.
Clara Francelia Castle, M. S., Manhattan, Kan. At home.
George Luther Christensen, Houghton, Mich. Instructor in mechanical engineering, Michigan School of Mines.
John Cornelius Christensen, Manhattan, Kan. County treasurer.
Lorena Estella Clemons, Manhattan, Kan. Secretary Kansas State Agricultural College.
Martha Cottrell, Wabaunsee, Kan. At home.
Sarah Esther (Cottrell) Wright, Jennings, La. Housewife.
Alverta May Cress, 1908 Buchanan street, Topeka, Kan. At home.
Fannie Jane Cress, 203 Washington street, Wheaton, Ill. Teacher.
Ernest A. Donaven, M. D., Mounthope, Kan. Physician.
Jephthah W. Evans, M. D., Council Grove, Kan. Physician and surgeon.
Isabelle Russell (Frisbie) Criswell, Oswego, Kan. Housewife.
Eugene Leonard Frowe. Died in 1898.
Walter Harling. Died in 1903.
Lorena Marguerite (Helder) Morse, 1100 W. Fortieth street, Kansas City, Mo. Housewife.
Mark V. Hester, Haviland, Kan. Editor of the *Onlooker*.
Charles Ross Hutchings, 1013 W. Silver avenue, Argentine, Kan. Civil engineer.
Isaac Jones, jr., Etiwanda, Cal. Fruit-grower.
Stella Victoria (Kimball) Tucker, Aguascalientes, Aguas, Mexico. Housewife.
Mary Eliza (Lyman) Otis, M. S., Oswego, Kan. Housewife.
William Henry Moore, M. S., Manhattan, Kan. Florist and horticulturist.
Sarah (Moore) Foster, 314 Melrose ave. N. Seattle, Wash. Housewife.
James Francis Odle, R. F. D. No. 1, Ogden, Kan. Farmer and stock-breeder.
Charles Randolph Pearson, Collyer, Kan. Farmer.
Horace Greeley Pope, LL.B., 3510 E. Tenth street, Kansas City, Mo. Member of law firm, Bird & Pope.
Minnie Louisa Romick, 567 N. Gordon street, Pomona, Cal. Teacher.
Winnie Luella (Romick) Chandler, R. F. D. No. 2, Wellston Station, Mo. Housewife.
Victor Irvin Sandt, Wells, Minn. Principal of manual training.
John Alfred Scheel, Emporia Kan. Owner and operator of sawmill.
Jacob Ulrich Secrest, Randolph, Kan. Farmer.
Charles Chrisfield Smith, 107 E. Seventh street, Topeka, Kan. Real-estate.
Jennie Ruth (Smith) Strong, Kinsley, Kan. Housewife.
Wesley Ohio Staver, Kern, Cal. Lawyer.
John Stingley, Wichita, Kan. Traveling salesman for Ohio Cultivator Company.

* B. S. has been granted all graduates since 1877.

John Edwin Taylor. Died in 1896.
Delbert L. Timbers, Osborne, Kan. Teacher.
Phebe Carey (Turner) Clothier, St. Marys, Kan. Housewife.
Samuel Robert Vincent, M. S., Deer Creek, Okla. Farmer.
Lucy Helena Waters, A. M., Livermore, Cal. Teacher.

1895.*

Edward Jones Abell, R. F. D. No. 2, Leonardville, Kan. Farmer and teacher.
Carl D. Adams, 1302 Cherry street, Kansas City, Mo. Weighing clerk for Swift & Company.
Robert John Barnett, Manhattan, Kan. Assistant postmaster.
Burton Wesley Conrad, Sabetha, Kan. Livery and sale stable.
Florence Ruth Corbett, M. S., department of public charities, central offices, foot of East Twenty-sixth street, New York city. Departmental dietitian.
Sid Henry Creager, 316 Keith & Perry building, Kansas City, Mo. Wholesale flour, biscuit and produce dealer.
Elsie Emeline Crump, Boulder, Colo. Teacher city schools.
David Thomas Davies, Bala, Kan. Farmer.
Frank Andrew Dawley, Waldo, Kan. Farmer and stock-raiser.
Daisy Day, M. S., Onaga, Kan. At home.
Flora (Day) Barnett, M. S., Manhattan, Kan. Housewife.
George Adam Dean, Manhattan, Kan. Assistant in entomology, Kansas State Agricultural College.
Lillie Christena (Dial) Falin, Cleburne, Kan. Teacher and housewife.
Lucy Ellis.
Victor Emrick, 1034 East Main street, Portland, Ore. Clerk in passenger auditing department, Oregon Railway and Navigation Company.
George Forsyth, 210 South Main street, Franklin, Ind. Traveling salesman.
Ernest Harrison Freeman, Armour Institute of Technology, Chicago, Ill. Teacher.
Florence Eleanor (Fryhofer) Webster, 2231 Ogden street, Denver, Colo. Housewife.
George William Fryhofer, Lindell hotel, St. Louis, Mo. Lawyer.
Oscar Hugo Halstead, Manhattan, Kan. Assistant professor of mathematics and graduate student, Kansas State Agricultural College.
Hortensia (Harman) Patten, 307 N. Harvey avenue, Oak Park, Ill. Housewife.
John Bright Harman, Gill, Kan. Farmer and stock-raiser.
Clarence V. Holsinger, Rosedale, Kan. Fruit-grower.
Christian Andrick Johnson, Success, Kan. Farmer and stock raiser.
John James Johnson, Litchfield, Ill. Physician and insurance agent.
Fred. Ralph Jolly, Paola, Kan. Editor of *Record*.
William Irving Joss, Newark, N. Y. Physician.
Maud Estella (Kennett) Darnall, Lent's suburb, Portland, Ore. Housewife.
Myron Arthur Limbocker, Pomona, Kan. Cashier Citizens' State Bank.
Samuel Alexander McDowell, Elkton, Colo. Miner.
Laura Sara (McKeen) Smith, Russell, Kan. Housewife.
Theo. Wattles Morse, M. S., 1100 W. Fortieth street, Kansas City, Mo. Agricultural advertiser.
Oscar Albert Otten, Fairbury, Neb. Telegraph operator.
William Hackworth Painter. Died in 1901.

*B. S. has been granted all graduates since 1877.

Charles Wesley Pape, M. S., 513 W. Second street, Topeka, Kan. Laboratory assistant at Continental creamery.

Ethel (Patten) Ames, 7438 Hermitage street, Pittsburg, Pa. Housewife.

John Vernon Patten, 307 N. Harvey avenue, Oak Park, Ill. Manufacturer of heating apparatus.

William H. Phipps, Wichita, Kan. Manager of cream separator company.

Alice Julia (Quintard) Peck. Died in 1899.

Frederick Ellsworth Rader, Sitka, Alaska. Alaskan Experiment Station.

Ralph Waldo Rader, Fayetteville, Ark. Fruit-grower, and secretary of Fayetteville Fruit-growers' Association.

Ada Rice, Manhattan, Kan. Instructor in English, Kansas State Agricultural College.

Benjamin Franklin Simeon Royer, St. Joseph, Mo. Physician.

Charles Baxter Selby, Sterling, Okla. Lawyer, editor and publisher Sterling *Star*, farmer, and United States court commissioner.

Mabel Gertrude (Selby) Laughlin, Ouray, Colo. Housewife.

Ernest P. Smith, Globe, Ariz. Foundryman.

Frederick John Smith, Russell, Kan. Editor.

Kitty Myrtle (Smith) Wheeler, Manhattan, Kan. Housewife.

Marietta Smith, 2029 Clarkson street, Denver, Colo. Nurse.

William Henry Steuart, Winchester, Kan. Farmer.

Cora Idella (Stump) Chaffee, Lasita, Kan. Housewife.

Dora (Thompson) Winter, 2303 Wabash avenue, Kansas City, Mo. Housewife.

Elven Creveling Trembly, Comiskey, Kan. Farmer and stock-raiser.

George Carpenter Wheeler, Manhattan, Kan. Assistant in feeding experiments, Kansas State Agricultural College.

Mary Elizabeth (Willard) Emrick, 1034 E. Main street, Portland, Ore. Housewife.

Olive Mabel (Wilson) Holsinger, Rosedale, Kan. Housewife.

Ora Gertrude Yenawine, Anniston, Ala. Instructor in domestic art, Barber's Memorial Seminary.

1896.*

May Haines (Bowen) Schoonover, Beaver, Pa. Housewife.

Con Morrison Buck, M. S., Marceline, Mo. Civil engineer for Santa Fe railroad.

Margaret Isaphene (Carleton) Doane, College Park, Md. Housewife.

William Annesley Cavenaugh, Fort Leavenworth, Kan. Captain, Sixth United States infantry.

William Arthur Coe, Ford, Kan. Farmer.

Charlotte Mabel (Cotton) Smith, Globe, Ariz. Housewife.

Ernest Brown Coulson, Sweetwater, Tex.

George Henry Dial, Cleburne, Kan. Teacher and farmer.

Charles Francis Doane, M. S., College Park, Md. Dairyman, Maryland Agricultural College Experiment Station.

John Berthold Dorman, Ph. B., West New Brighton, N. Y. Instructor of science, Westerleigh Collegiate Institute.

Bradford Dougherty, 623-634 Minnesota avenue, Kansas City, Kan. Merchant.

Charles Silar Evans, M. D., Grand Encampment, Wyo. Superintendent of Good Shepherd hospital.

Robert Kilby Farrar, Downs, Kan. Superintendent of city schools.

George William Finley, Tonkawa, Okla. Professor of mathematics, University Preparatory School of Oklahoma.

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*B. S. has been granted all graduates since 1877.

Joanna Freeman. Died in 1897.
John Jacob Fryhofer, 1810 Byers avenue, Joplin, Mo. Bookkeeper for Freeman foundry and machine works.
Elmer George Gibson.
George Clifton Hall, Manhattan, Kan. Farmer and teacher.
Alonzo Charles Havens, Dwight, Kan. Farmer.
Gertrude Julia (Havens) Norton, College Park, Md. Housewife.
Lawrence Wilbur Hayes, 624 Van Buren street, Topeka, Kan. Clerk at C. R. I. & P. freight depot.
John Warren Holland, Manila, P. I.
Henry George Johnson, D. D. S., Lindsborg, Kan. Dentist.
Susan Effie (Johnson) Cooper, Success, Kan. Housewife.
Marian Elizabeth Jones, M. S., Manhattan, Kan. Superintendent of domestic art department, Kansas State Agricultural College.
Thomas Lormer Jones, 921 Charlotte street, Kansas City, Mo. Piano-tuner.
Edward Clarence Joss, D. V. S., Troutdale, Ore. Inspector, bureau of animal industry, United States Department of Agriculture.
Royal S. Kellogg, M. S., Washington, D. C. Agent bureau of forestry, United States Department of Agriculture.
Mark Kirkpatrick, Atoka, I. T. Choctaw land-office.
Edith Lynette (Lantz) Simmons, 602 Spicer avenue, Victor, Colo. Housewife.
Sue (Long) Strauss, 1241 Tyler street, Topeka, Kan. Housewife.
Charles W. Lyman, Salina, Kan. Traveling salesman.
Charles Dwin McCauley, Wilburn, Kan. Farmer.
Charles Sumner Marty, Sun, Barber county, Kansas. Stockman.
Elda Lenore (Keen) Moore, Manhattan, Kan. Housewife.
Arthur Houston Morgan, R. F. D. No. 3, Long Island, Kan. Farmer and stock-raiser.
Clara Verena Newell, Glenville, Neb. Housekeeper for brothers.
Ellen Elizabeth (Norton) Adams, Loveland, Colo. Housewife.
John Bitting Smith Norton, M. S., College Park, Md. State pathologist and professor of botany, Maryland Agricultural College.
Hattie A. (Paddleford) McFadden, Walsburg, Kan. Housewife.
Mary Kerilla (Painter) Rogers, Stockholm, Okla. Housewife.
Elva Luthera (Palmer) Thackrey, 2746 Belleview avenue, Kansas City, Mo. Housewife.
Inez Luella (Palmer) Barrows, Washington, Kan. Housewife.
Fannie (Parkinson) Moyer, Melvern, Kan. Housewife.
Archie Carpenter Peck, Francis, I. T. Manager of cotton-gin.
Arthur Louis Peter, M. D., 403-4 Mack block, Denver, Colo. Physician.
Charles Edwin Pincomb, Merriam, Kan. Stockman.
Mary Josephine (Pincomb) Moats, Tampico, Mexico. Housewife.
John Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Edgar Arthur Powell, R. F. D. No. 1, Osage City, Kan.
Lisle Willits Pursel, 1318 Monroe avenue, Kansas City, Mo. Traveling salesman for Swift & Company.
Howard Newton Rhodes, Manhattan, Kan. Clerk at Union Pacific freight depot.
Ambrose Elliott Ridenour, Manhattan, Kan. Foreman of foundry, Kansas State Agricultural College.
Mary Etta (Ridenour) Plowman, Jewell, Kan. Housewife.
Isaac Archie Robertson, Manhattan, Kan. Clerk.
Grace Anna Secrest. Died in 1902.

Carl Snyder, Oskaloosa, Kan. Farmer.
Max Gilbert Spalding, Eureka, Kan. Teacher and farmer.
Orville Ashford Stingley, 1912 East Thirty-sixth street, Kansas City, Mo. Inspector in bureau of animal industry, United States Department of Agriculture.
Sadie (Stingley) Haggman, 1805 Michigan avenue (Boyle Heights), Los Angeles, Cal. Housewife.
Gertrude Ella Stump, Manhattan, Kan. Assistant in domestic art department and gradute student, Kansas State Agricultural College.
Miriam Esther (Swingle) Joss, Troutdale, Ore. Housewife.
William Elwood Thackrey, Fall River, Mont. Manual-training teacher, Indian school.
James Dunbar Trumbull, Riley, Kan. Merchant.
Frank Edwin Uhl, Gardner, Kan. Farmer, and graduate student, Kansas State Agricultural College.
Edwin H. Webster, M. S., 2231 Ogden street, Denver, Colo. General superintendent, Littleton Creamery Company.

1897.*

Cora Atwell, 1125 West Third street, Topeka, Kan. At home.
Roger Williams Bishoff, Eudora, Kan. Farmer.
Mary Frances (Carnell) Roe, Dorrance, Kan. Housewife.
William Burns Chase, 1425 North Quincy street, Topeka, Kan. Electrician, Bell Telephone Company.
Frank E. Cheadle, Cherokee, Okla. Merchant and farmer.
Robert Waitman Clothier, M. S., Cape Girardeau, Mo. Professor of chemistry and agriculture, Third District Normal School.
Maggie A. (Correll) Uhl, Gardner, Kan. Housewife.
Mabel (Crump) McCauley, 4824 Calumet avenue, Chicago, Ill. Housewife.
Fred Volley Dial, 1638 New Hampshire street, Lawrence, Kan. Assistant in zoology and museum instructor, Kansas State University.
Viola Grace Dille, 2517 East Tenth street, Kansas City, Mo. Clerk in office of Meriden Creamery Company.
Samuel Dolby. Died in 1903.
George Doll, Larned, Kan. Farmer, and secretary of a farmers' cooperative association.
Anna Phillipina (Engel) Blackman, Manhattan, Kan. Housewife.
Emma Finley, Lordsburg, Cal. Teacher in La Verne schools.
Martha Fox, Manhattan, Kan. At home.
Philip Fox, M. S., Williams Bay, Wis. Carnegie assistant at Yerkes Observatory.
Ned Merrill Green, Fort Niobrara, Neb. First Lieutenant, Twenty-fifth infantry, United States army.
Mary Eliza Haulenbeck. Died in 1901.
Lewellyn Gaines Hepworth, Burlingame, Kan. Traveling salesman.
Ina Emma Holroyd, Manhattan, Kan. Assistant in preparatory department, Kansas State Agricultural College.
Myrtle Hattie (Hood) Johnson, Success, Kan. Housewife.
Charles Henry Hoop, Manhattan, Kan. Clerk.
Winfred Anna (Houghton) Buck, Marceline, Mo. Housewife.
Bret Redmon Hull, Alta Vista, Kan. Lumber and hardware merchant.

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Clay Berkey Ingman, Barnes, Kan. Farmer.
Gertrude May (Lyman) Hall, Hyattsville, Md. Housewife.
Frederick Hugo Meyer, 500 Dugarra avenue, Kansas City, Kan. Creameryman.
Valentine Maelzer, Morse, Lemhi county, Idaho. Farmer and teacher.
Sherman Bodwell Newell, R. F. D. No. 3, Manhattan, Kan. Ranchman.
Oliver Ezra Noble, Hobart, Okla. General engineer and draftsman.
Jesse Baker Norton, M. S., Washington, D. C. Assistant in bureau of plant industry, United States Department of Agriculture.
Mary Augusta (Norton) Polson, Winkler, Kan. Housewife.
Bertha Olivia Olson, Manhattan, Kan. At home.
Hilda Sophia (Olson) Axelton, Randolph, Kan. Housewife.
Russell John Peck, Harrison, Okla. Farmer.
William Oscar Peterson, Randolph, Kan. Farmer and teacher.
Eva Louise Philbrook, Oxnard, Cal. Teacher.
Rufus M. Philbrook, Walla Walla, Wash. Teacher in Ocean View schools.
William Joseph Rhoades, Olathe Kan. Cashier in bank.
Carl E. Rice, Manila, P. I. Patrolman.
Thomas Meade Robertson, D. D. S., Coffeyville, Kan. Dentist.
Homer Joseph Robison, Taal, Batanzas prov., P. I. Hospital steward, United States army.
Edward Shellenbaum, Randolph, Kan. Clerk in post-office.
Alice Myrtle Shofe, Manhattan, Kan. At home.
Charles Wesley Shull, Winona, Kan. Dairyman, McAllaster ranch.
Alfred Caleb Smith, 4717 Cook avenue, St. Louis, Mo. Electrician at Louisiana Purchase Exposition.
Phœbe Jane Smith, 514 West Eighth street, Pueblo, Colo. Teacher city schools.
Wilhelmina Henrietta Spohr, Manhattan, Kan. Teacher city schools.
Charles Harrison Stokely, Burlingame, Ark.
John E. Trembly, Comiskey, Kan. Farmer.
Harriet Agnes Vandivert, Manhattan, Kan. Student assistant, Kansas State Agricultural College.
Olive Voiles, Cedar Rapids, Iowa. Head nurse in St. Luke's hospital.
John Minton Westgate, M. S., Washington, D. C. Scientific assistant in bureau of agrostology, United States Department of Agriculture.
Mark Wheeler, Fort Slocum, N. Y. Captain, Sixteenth United States infantry.
Clare Annie (Wilson) Dutton, Council Grove, Kan. Housewife.

1898.*

Emory Sherwood Adams, quartermaster, transport "Ingalls." Second Lieutenant in Fourteenth United States infantry.
Joshua William Adams, Cheyenne Wells, Colo. Ranchman.
Samuel John Adams, Loveland, Colo. Ranchman.
Thomas Walter Allison, Florence, Kan. Fruit-grower.
William Anderson, Manhattan, Kan. Assistant in mathematics, Kansas State Agricultural College.
Jessie Geneva (Bayless) Staver, Shawnee, Kan. Housewife.
Hope Brady, Manhattan, Kan. Teacher city schools, Liberal, Kan.
Robert Henry Brown, Manhattan, Kan. Assistant in music, Kansas State Agricultural College.
Earl Carver Butterfield, Washington, D. C. Assistant in horticulture, bureau of plant industry, United States Department of Agriculture.

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John Alfred Conover, 607 Boone street, Ames, Iowa. Graduate assistant in animal husbandry, Iowa State College.

Minnie Laura Copeland, 3216 Wabash avenue, Chicago, Ill. Trained nurse.

Lucy Maria (Cottrell) Pottorf, Riley, Kan. Housewife.

Anna Magdalena (Dahl) Davis, Montrose, Kan. Housewife.

Inga Josephine Dahl, R. F. D. No. 1, Montrose, Kan. Teacher.

Cassie Belle Dille, 2517 E. Tenth street, Kansas City, Mo. Stenographer for Meriden Creamery Company.

Emma Phillipine Doll, P. O. box 532, Larned, Kan. Teacher.

Cora Elizabeth (Ewalt) Brown, Manhattan, Kan. Housewife.

Guy Francis Farley, Melvern, Kan. Student Emerson College of Oratory, Boston.

Mary (Finley) Ridenour, Manhattan, Kan. Housewife.

Arthur Lorenzo Frowe, Wamego, Kan. Student at Drake University, Des Moines, Iowa.

William Logan Hall, M. S., Washington, D. C. Assistant forester, in charge of tree planting, United States Department of Agriculture.

Anna Viola (Hanson) Higinbotham, Manhattan, Kan. Housewife.

Walter Eugene Hardy, Sedgwick, Ark. Auditor and traffic manager, Cache Valley Railway Company.

James Madison Harvey, R. F. D. No. 1, Ogden, Kan. Farmer.

Emmett Vivian Hoffman, Enterprise, Kan. Business manager of flouring-mill.

Guy Dudley Hulett, D. O., 409 South Sixth street, Kirksville, Mo. Professor of principles and practice of osteopathy, American School of Osteopathy.

Bertha Emma Ingman, Barnes, Kan. At home.

Ary Cordelia Johnson, Success, Kan. At home.

Charles Percy King, Chanute, Kan. Lumberman.

Bessie May (Lock) Noble, Hobart, Okla. Housewife.

Olive Long. Died in 1902.

William Andrew McCullough, M. D. Manhattan, Kan. Physician.

Inez Isadore (Manchester) Allison, Florence, Kan. Housewife.

Florence Adelia Martin. Died in 1901.

Henry Alba Martin, Admire, Kan. Creamery and cheese.

Alice Maude Melton, Manhattan, Kan. Clerk in Director's office, Kansas Experiment Station.

George Gerkein Menke, Garden City, Kan. Stock-breeder.

Mary Frances Minis, Manhattan, Kan. Clerk in real-estate office.

May (Moore) Dakin. Care of Jackson-Walker Coal and Mercantile Company, Wichita, Kan. Housewife.

Harriet Grace (Nichols) Donohoo, Tucumcari, N. M. Housewife.

Schuyler Nichols, M. D., Liberal, Kan. Physician and surgeon.

Lucy Junie Parks, Manhattan, Kan. Teacher.

Ernest Byron Patten, Carthage, S. Dak. Grain-buyer.

C. Jeanette Perry, Manhattan, Kan. Clerk in Secretary's office, Kansas State Agricultural College.

Emilie Matilda Pfuetze, Manhattan, Kan. Cashier in store.

John Martin Pierce, Geyserville, Cal. Fruit-grower.

Raymond Haines Pond, M. S., 3195 Malden avenue, Chicago, Ill. Professor of botany and pharmacognosy, director of microscopic laboratories, Northwestern University.

William Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.

Willis Thomas Pope, Honolulu, T. H. Professor of nature study and agriculture in the Territorial Normal and Training School of Hawaii.
Nora May (Reed) Pierce, Geyserville, Cal. Housewife.
Gertrude Elizabeth Rhodes, Manhattan, Kan. At home.
Henry William Rogler, Bazaar, Kan. Farmer.
Ferdinand John Rumold, Dillon, Kan. Farmer and stockman.
Martin Wilbur Sanderson, Marysville, Kan. City engineer and county surveyor.
Olive Maria (Sheldon) Parker, 402 Upson avenue, El Paso, Tex. Housewife.
Edwin Lee Smith, Manhattan, Kan. Farmer.
Oliver Russell Smith, Socorro, N. M. Professor of civil engineering, New Mexico School of Mines.
Bertha (Spohr) Smith, Garnett, Kan. Housewife.
Andrew B. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.
Cora Thackrey, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Harriet Emerson (Thackrey) Reece, Valentine, Neb. Housewife.
Henry Marsden Thomas, lock box 532, Wichita, Kan. Collector for J. I. Case Threshing-machine Company.
Elsie Lucile Waters, 2461 Forty-second avenue, Chicago, Ill. Stenographer.
Fred Dorsey Waters, Deridder, La. Lumber grader.
Abner Davis Whipple, 531 West Sixty-first Place, Chicago, Ill. Catalogue man with Butler Brothers.
Adelaide Frances (Wilder) Sawdon, 405 Thirty-third street, Chicago, Ill. Housewife.
Josephine Hannah (Wilder) McCullough, Manhattan, Kan. Housewife.
Frank Yeoman, 57 Water-works building, Kansas City, Mo. Lawyer.
Frederick Zimmerman, Moray, Kan. Farmer.

1899.*

Bonnie Frances Adams, Marvin, Kan. At home.
Morrison Carpenter Adams, Marvin, Kan. Stock farmer.
Melvia Fairetta Avery, Wakefield, Kan. Student at the College of Physicians and Surgeons, Kansas City, Kan.
Albert Edwin Blair, room 6, 528½ J street, Sacramento, Cal. Architectural draftsman.
James Courtney Bolton, Wamego, Kan. Farmer.
Joseph Abbott Butterfield, 703 West Tenth street, Kansas City, Mo. Railway postal clerk.
Willit Ramson Correll, Overbrook, Kan. Farmer.
Ernest Lerned Cottrell, Wabaunsee, Kan. Farmer.
Alfred Burton Dille, jr., Edgerton, Kan. Farmer.
Francis Joseph Habiger, Bushton, Kan. Wheat-grower and stock-raiser.
John George Haney, Hays, Kan. Superintendent Fort Hays Branch Experiment Station.
John Andrew Harvey, R. F. D. No. 1, Ogden, Kan. Farmer.
Grace Edna (Hill) Champlin, Phillipsburg, Kan. Housewife.
Hiram Adsit Holzer, 113 West Park avenue, Pittsburg, Kan. Superintendent United Iron-works Company.
Charles Clifford Jackson, R. F. D. No. 1, Westmoreland, Kan. Farmer.
Fred Emanuel Johnson, D. V. S., 4218 Union avenue, Chicago, Ill. Inspector, bureau of animal industry, United States Department of Agriculture.

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*B. S. has been granted all graduates since 1877.

Harry Wallace Johnston, Herington, Kan. Telegraph operator in dispatcher's office of the Chicago, Rock Island & Pacific railway.
Lot Parker Keeler, 287 Second street, Portland, Ore. Carpenter.
John Martin Kessler, Twenty-fifth and Kansas avenue, Topeka, Kan. Florist.
Albert Thomas Kinsley, M. S., D. V. S., 1330 East Fifteenth street, Kansas City, Mo. Microscopist, Kansas City Veterinary College; veterinary practitioner.
Frank Elmer LaShelle, Wray, Colo. Editor of Wray *Rattler*.
Christian Dagobert Lechner, Russell, Kan. Contractor.
Ross Long, Hobart, Okla. Lawyer.
Louisa Mary (Maelzer) Haise, Russell, Kan. Housewife.
Kate Anna Manly, Manhattan, Kan. Teacher.
Claud Masters, Ardmore, I. T. Clerk of Chickasaw Town-site Commission, United States Indian service.
Robert Bertice Mitchell. Died in 1904.
Jennie June (Needham) Carter, R. F. D. No. 2, Lane, Kan. Housewife.
Roscoe Townley Nichols, M. D., Liberal, Kan. Physician and surgeon.
Fanny Gertrude Noyes, R. F. D. No. 1, Zeandale, Kan. At home.
Harry Delphos Orr, M. D., St. Luke's hospital, Chicago, Ill. Physician.
George Washington Owens, Institute station, Tuskegee, Ala. Instructor in dairying and assistant in agriculture.
Carrie Vashti (Painter) Desmarias, Lakeland, Kan. Housewife.
Ella Emerson Peck, Lexington, Okla. Teacher.
Anna C. Pfuetze, Olathe, Kan. Teacher of household economy in Kansas School for the Deaf.
Andrew Pottorf, Riley, Kan. Farmer.
Mary Bly (Pritner) Lockwood, Meadville, Pa. Housewife.
Otto Independence Purdy, El Reno, Okla. City editor *Daily American*.
Delmer William Randall, Manhattan, Kan. Contractor.
William Harry Roberts.
Frank Sessions Shelton, Grand Rapids, Mich. Traveling salesman.
Louisa Mary Spohr, Topeka, Kan. Director of nurses in Christ hospital.
Annie Louisa (Streeter) Haney, Hays, Kan. Housewife.
Nellie Towers, Manhattan, Kan. Dressmaker.
Otho Sprague True, Vera, Kan. Farmer.
James Otis Tulloss, Sedan, Kan. Merchant, and Regent Kansas State Agricultural College.
William Guy Tulloss, Rantoul, Kan. Farmer.
George Franklin Wagner, Enterprise, Kan. Stock-raiser.
Mary Lana (Waugh) Smith, 4717 Cook avenue, St. Louis, Mo. Housewife.
Charles Bernard White, Hudson, Colo. Ranchman.
Nannie Elizabeth Williams, 2639 Nebraska avenue, St. Louis, Mo. Stenographer.
Alexander George Wilson. Died in 1902.
Frederick Otto Woestemeyer, B. D., Lebanon, Tenn. Student Cumberland University.

1900.*

Elizabeth Jane Agnew, Yates Center, Kan. Student at Teachers' College Columbia University, New York city.
Elizabeth Edna (Asbury) Derr, 8114 Merrill avenue, Chicago, Ill. Housewife.
Effie Elizabeth (Bailey) Foltz, Zeandale, Kan. Housewife.

*B. S. has been granted all graduates since 1877.

Alvah I. Bain, Marysville, Kan. Farmer.
Harry H. Bainer, 513 Story street, Ames, Iowa. Postgraduate student, Iowa Agricultural College.
Charlotte Almira (Berkey) Smith, El Dorado, Kan. Housewife.
John Harold Blachly, Orange, Vernon parish, Louisiana. Engineer.
Minerva Blachly, Manhattan, Kan. Bookkeeper in Secretary's office, Kansas State Agricultural College.
Zina Leigh Bliss, 606 Catharine street, Ann Arbor, Mich. Student of forestry, University of Michigan.
Fred Winchester Bobbitt, box 13, Perry, Okla. Superintendent of city water and light department.
Lillie Grace Bolton, R. F. D. No. 1, Wamego, Kan. Teacher.
Prudence Dell Broquet, Norton, Kan. At home.
Nellie (Burtner) Sargent. Died in 1901.
Clarence Asa Chandler, R. F. D. No. 2, Wellston station, Mo. Landscape-gardener.
Frederick Waldemar Christensen, Randolph, Kan. Graduate student, Kansas State Agricultural College,
Ernest Mansel Cook, Guayanilla, Porto Rico. Teacher in Spanish schools.
Charles McClain Correll, Manhattan, Kan. Teacher in city schools.
Jennie Maude Currie, 906 Madison street, Topeka, Kan. Stenographer.
Harry Leroy Dern, Dodge City, Kan. Teacher and stock-raiser.
Homer Derr, 8114 Merrill avenue, Chicago, Ill. Student at Chicago University.
Mary Alberta (Dille) Hulett, 409 S. Sixth street, Kirksville, Mo. Housewife.
Robert Edward Eastman, Manhattan, Kan. Assistant horticulturist, Kansas State Agricultural College.
Jennie Edelblute, Manhattan, Kan. Clerk.
Eugene Emrick, 1312-1314 McGee street, Kansas City, Mo. Traveling salesman for Price Mercantile Company.
Josephine Finley, Manhattan, Kan. At home.
Harry Verne Forest, Thayer, Kan. Ice dealer, and graduate student, Kansas State Agricultural College.
George Ogden Greene, M. S., Amherst, Mass. Assistant in horticulture, Massachusetts State Agricultural College.
Herman C. Haffner, Keams Canon, Ariz. Disciplinarian in the Moqui Training School.
Gustaf William Hanson, Marquette, Kan. Proprietor and superintendent of the Hanson Novelty Manufacturing Company.
James William Harner, Casper, Wyo. Ranchman.
Daisy Gladys Hoffman, Enterprise, Kan. Kindergarten teacher.
Walter Fisk Lawry, Cheyenne building, Colorado Springs, Colo. Assistant engineer, C. R. I. & P. Ry. Co.
Amanda Culp McCarty, Mountain Grove, Mo. Instructor in music, Mountain Grove Academy.
N. Ollie McCurry, Plymouth, Kan. Telegraph operator, A. T. & S. F. depot.
George G. McDowell, Elkton, Colo. Prospector.
Roland McKee, Blue Rapids, Kan. Farmer.
Nettie (McLaren) Scott, Altoona, Kan. Housewife.
Charles Dudley Montgomery. Died in 1902.
Fred Byers Morlan, R. F. D. No. 1, Courtland, Kan. Farmer.
Andrew Edward Oman, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.

Kate Paddock, Manhattan, Kan. At home.
Joseph Lloyd Pancake, Tully, Kan. Stock-raiser.
Albert William Parrack. Died in 1901.
Edith Perkins, box 238, South Pasadena, Cal. At home.
Elenore Perkins, box 238, South Pasadena, Cal. At home.
Paul du Chaillu Piersol, Guthrie, Okla. Wholesale candies.
Luther Eugene Potter, Chilocco, I. T. Dairyman at Indian school.
Clara Spilman, Camden Point, Mo. Instructor in domestic science at the Christian Female Orphans' School.
Mabel Stewart, Neosho, Mo. Teacher.
Stella Stewart, Cresheim Hall, Mt. Airy, Philadelphia, Pa. Primary teacher, Pennsylvania Institution for the Deaf.
Fayette Charles Sweet, Sophia, Beaver county, Oklahoma. Stockman.
Cora Edith Swingle, South Canaan, Pa. Teacher.
Dean Brett Swingle, M. F., Washington, D. C. Assistant in pathology, bureau of plant industry, United States Department of Agriculture.
Barton Thompson, R. F. D. No. 4, Lebanon, Kan. Cheese-maker for Vinsonhaler & Co.
Laura Helen (Trumbull) Correll, Manhattan, Kan. Housewife.
Jessie May Wagner, Enterprise, Kan. At home.
Luther Watts Waldraven, Randolph, Kan. Farmer.
Kate Elizabeth Zimmerman, Moray, Kan. Student at Teachers' College, Columbia University, New York city.

1901.*

Delmer Akin, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Cyrus Norton Allison, D. D. S., Cordell, Okla. Dentist.
Loua Adelle Blachly, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Harry S. Bourne, Delphos, Kan. Farmer.
Charles J. Burson, Hewins, Kan. Foreman of farm, stock-raiser, speculator in oil and gas leases.
Howard Frank Butterfield, Manhattan, Kan.
Edwin Charles Cook. Died in 1903.
Ina Foote Cowles, Manhattan, Kan. Instructor in domestic art, Kansas State Agricultural College.
Trena Dahl, R. F. D. No. 1, Montrose, Kan. Teacher, and graduate student, Kansas State Agricultural College.
Fannie Rachel Ellen Dale, Manhattan, Kan. Bookkeeper and stenographer.
Herman August Dieball, Albuquerque, N. M. Proprietor of Commercial hotel.
Edgar Willis Doane, 420 Everett street, Palo Alto, Cal. Student Leland Stanford Jr. University.
Otto H. Elling, Hays, Kan. Foreman at Fort Hays Branch Experiment Station.
Valentine Meacham Emmert, Blue Rapids, Kan. Farmer.
Rainey Faris, Upper Alton, Ill. Designer for Western Cartridge Company.
Harry Haines Fay, Wilsey, Kan. Farmer.
Fred Fockele, Waverley, Kan. Cashier in bank.
Louisa Gerteis, Derby, Kan. Student at Kansas State Normal School.
Maud Hart, Good Will, S. Dak. Instructor in domestic science in Indian school.

*B. S. has been granted all graduates since 1877.

Fred Willis Haselwood, Palo Alto, Cal. Student Leland Stanford Jr. University.

Minnie M. Howell, box 1, Topeka, Kan. Instructor of English grammar and domestic science, Topeka Industrial Institute.

Edith Huntress, Manhattan, Kan. Clerk in post-office, Kansas State Agricultural College.

Louis Berten Jolley, 1343 Jackson boulevard, Chicago, Ill. Student Chicago Homeopathic Medical College.

Helen (Knostman) Pratt, Manhattan, Kan. Housewife.

Daniel Ladd, Palo Alto, Cal. Mechanic.

Erma Elizabeth Lock, Mountain Grove, Mo. Teacher.

Harvey McCaslin, Palo Alto, Cal. Student Leland Stanford Jr. University.

Madge Ruth McKeen, Keats, Kan. At home.

John A. McKenzie, R. F. D. No. 1, Solomon, Kan. Farmer.

George Martinson, box 441, Palo Alto, Cal. Student Leland Stanford Jr. University.

Walter E. Mathewson, Manhattan, Kan. Assistant in chemistry, Kansas State Agricultural College.

Emma Maude (Miller) Cook, Milford, Kan. Housewife.

Margaret Jane Minis, Manhattan, Kan. Librarian, Kansas State Agricultural College.

Clarence William Morgan, Phillipsburg, Kan. Farmer.

Eugene Lawrence Morgan, Phillipsburg, Kan. Student at Kansas Medical College, Topeka.

Ruth Atwill Mudge, 1209 Second street, Louisville, Ky. Assistant in physiology and botany, girls' high school.

Jessie May Mustard, Manchester, Kan. Teacher at Hope, Kan.

Martha Nitcher, 513 Story street, Ames, Iowa. Special graduate student, Iowa State College.

John H. Oesterhaus, 1330 East Fifteenth street, Kansas City, Mo. Student at Kansas City Veterinary College.

Carrie Bell Oneel, R. F. D. No. 2, Atchison, Kan. Teacher.

Helena Maude Pincomb, Merriam, Kan. Student at Teachers' College, Columbia University, New York city.

Bryant Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.

Leroy Rigg, Kirwin, Kan. Farmer.

William Stephen Sargent, Manhattan, Kan. Farmer.

Maude (Sauble) Rogler, Bazaar, Kan. Housewife.

Charles A. Scott, Washington, D. C. Agent bureau of forestry, United States Department of Agriculture.

Anna Louisa (Smith) Kinsley, 1330 East Fifteenth street, Kansas City, Mo. Housewife.

Adelaide Strite, R. F. D. No. 1, Manhattan, Kan. Teacher.

Anna Odette Summers, Waterville, Kan. At home.

Lucy Sweet, Santa Cruz, Cal. Clerk.

Perrin K. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.

Estella Mae Tharp, Arkansas City, Kan. Teacher.

Helen Castle True, Vera, Kan. At home.

Harry Castle Turner, Rock Creek, Kan. Teacher.

Florence Helen Vail, Manhattan, Kan. Assistant in chemistry, and graduate student, Kansas State Agricultural College.

Mary Caroline Wagner, Zuni, N. M. Instructor of domestic art, Zuni Training School.

Eleanor Mary White, R. F. D. No. 4, Newton, Kan. Teacher.
Katharena Winter, Manhattan, Kan. Clerk.
Lucie Joan (Wyatt) Wilson, Westmoreland, Kan. Housewife.
Henry Theador York. Died in 1902.

1902.*

Mamie Alexander, Manhattan, Kan. Stenographer in office of farm department, Kansas State Agricultural College.
Edgar McCall Amos, Manhattan, Kan. Newspaper reporter.
Henry Albert Avery, Wakefield, Kan. Hardware and implement merchant.
Etta Marie Barnard, Manhattan, Kan. Teacher at Ogden.
Mary Olive Barr, Manhattan, Kan. Teacher.
George Ford Bean, Manhattan, Kan. Employed at Pfuetze's lumber-yard.
Charles Dallas Blachly, Leonardville, Kan. Student at Kansas City Medical College.
Bessie Sarah Bourne, Delphos, Kan. Teacher.
Martha Amelia Briggs, R. F. D. No. 2, Manhattan, Kan. At home.
Emma M. Cain, Clay Center, Kan. Teacher at Randolph.
Floyd Adelbert Champlin, Phillipsburg, Kan. Stockman.
Elijah Ellis Chase, Merriam, Kan. Farmer.
Charles Howard Clark, Nettleton, Kan. Farmer.
Maude Mildred Coe, Manhattan, Kan. Assistant in domestic art, Kansas State Agricultural College.
Murray Stanley Cole, 1115 West Third street, San Bernardino, Cal. Draftsman in Santa Fe shops.
Robert Curtise Cole, Hudson, S. Dak. Foreman on stock ranch.
Lottie Irene Crawford, 52 Livingston street, Brooklyn, N. Y. Student at Pratt Institute.
Sarah Emily Davies, Bala, Kan. Teacher.
Della Drollinger, Garrison, Kan. Teacher at Randolph.
Charles Eastman, D. V. S., 1336 East Fifteenth street, Kansas City, Mo. Veterinarian.
Leslie Arthur Fitz, Washington, D. C. Assistant in bureau of forestry, United States Department of Agriculture.
Glick Fockele, Leroy, Kan. Newspaper reporter.
Clark A. Gingery, Caldwell, Kan. Creamery.
William Lee Harvey, Arkalon, Kan. County attorney.
Benjamin F. Haynes, jr., R. F. D. No. 1, Middleton, Idaho.
William Rutherford Hildreth, Ames, Iowa. Postgraduate student at Iowa State College.
Christine Delphine Hofer, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Henrietta Mattie Hofer, Manhattan, Kan. Student assistant in library, Kansas State Agricultural College.
Edouard Wilfred House, Manhattan, Kan. Mechanic.
Letta Birdilla Keen, Clay Center, Kan. Music teacher at Saxon, Kan.
Edgar Willis Kimball, Scandia, Kan. Journalist.
Arthur Henry Leidigh, Washington, D. C. Assistant in bureau of soils, United States Department of Agriculture.
George Logan, 6023 Ellis avenue, Chicago. Ill. Student Rush Medical College.
Otto Meade McAninch, R. F. D. No. 4, Manhattan, Kan. Farmer.

*B. S. has been granted all graduates since 1877.

Amelia Augusta Maelzer, Morse, Lemhi county, Idaho. Teacher.
Myrtle Mather, Normal, Ill. Instructor of domestic science, Soldiers' Orphan School.
Roger Bonner Mullen, Home, via Lake Bay, Wash. Fruit-grower.
Grover Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Abbie Elida Putnam, Manhattan, Kan. Teacher, and graduate student, Kansas State Agricultural College.
Henry Paul Richards, 417 Madison street, Topeka, Kan. Inspector and tester of road work for Santa Fe Railway Company.
Eva Talitha Rigg, Manhattan, Kan. General secretary of Young Women's Christian Association, Kansas State Agricultural College.
John Francis Ross, Crow Agency, Mont. Instructor in Indian school.
Pontus Henry Ross, Kenai, Alaska. Assistant in United States Experiment Station.
Fred Lewis Schneider, Albuquerque, N. M. Proprietor of Commercial hotel.
Edmund Ray Secrest, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.
Glen Reid Shepherd, 623 Oakland avenue, Kansas City, Kan. Treasurer of Orpheum theater.
Charles Franklin Smith, El Dorado, Kan. Principal of Central school.
Walter Hayward Spencer, Yates Center, Kan. Farmer.
John Thomas Stafford, Maher, Colo. Ranchman.
Myrtie Lucy Toothaker, Wheaton, Kan. Teacher.
Fred Walters, Manhattan, Kan. Employed at Higinbotham's mill.
Lilly Maud Zimmerman, Moray, Kan. Student at Kansas State Normal School, Emporia.

1903.*

Richard Franklin Bourne, Manhattan, Kan. Graduate student and assistant, Kansas State Agricultural College.
Howard McCune Chandler, 319 First street, San Francisco, Cal. Mechanical engineer, with W. T. Garratt & Co., 138–142 Fremont street.
DeVerne Corbin, box 1059, Tacoma, Wash. Draftsman.
James A. Correll, block 54, Agricultural building, Louisiana Purchase Exposition, St. Louis, Mo. Refrigerating engineer.
Amos Luther Cottrell, Ames, Iowa. Postgraduate student at Iowa State College.
Claude Carrol Cunningham, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Orrin Pomeroy Drake, Rockford, Ill. Machinist.
Louis Sidney Edwards, Oswego, Kan. Foreman on Deming stock ranch.
Robert Alexander Esdon, Olsburg, Kan. Teacher.
Corinne Failyer, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Maude Irene Failyer, student assistant, Kansas State Agricultural College.
Estella May Fearon, Manhattan, Kan. Director of physical training, Kansas State Agricultural College.
George T. Fielding, 114 E. Ferry street, Schenectady, N. Y. Electrician for General Electric Company.
James William Fields, McPherson, Kan. Member of Dodge City Realty Company.

*B. S. has been granted all graduates since 1877.

Arthur B. Gahan, College Park, Md. Assistant entomologist at Maryland State Agricultural College Experiment Station; graduate student, Kansas State Agricultural College.

Fred Norton Gillis, 2222 Blaisbell avenue, Minneapolis, Minn. In physician's office.

Clara S. Goodrich, Mankato, Kan. Teacher in Jewell City schools.

Edith Anna Goodwin, teacher of science and German in Dickinson county high school, and graduate student, Kansas State Agricultural College.

Ellsworth Paul Goodyear, 221 South Main street, Wichita, Kan. Bakery.

Alanson L. Hallsted, Havana, Kan. Farmer.

Esther E. Hanson, Marquette, Kan. Student at Kansas State Normal School, Emporia.

Edward Howard Hodgson, Little River, Kan. Farmer.

Pearl Holderman, Chetopa, Kan. At home.

Hartley Bowen Holroyd, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.

Sarah C. Hougham, Manhattan, Kan. Clerk in botanical department, Kansas State Agricultural College.

Axel H. Johnson, San Bernardino, Cal. Draftsman.

Jesse McCullah Jones, R. F. D. No. 4, Montgomery, Ala. Farmer.

Hernon Curtis Kyle, Manhattan, Kan. Student assistant, Kansas State Agricultural College.

Raymond George Lawry, 114 Thirty-third street, Chicago, Ill. Chief draftsman of structural steel department of Roberts, Schaefer & Co., consulting engineers, 1275 Old Colony building.

Rose Margaret McCoy, Manhattan, Kan. Teacher.

Edwin William McCrone, Big Horn, Wyo. Dairyman.

Bessie A. Mudge, Pittsburg, Kan. Instructor in domestic science and domestic art, Pittsburg high school.

Harold Theodore Nielsen, Ames, Iowa. Postgraduate student at Iowa State Agricultural College.

Ivan L. Nixon, Geological hall, Albany, N. Y. Assistant entomologist, New York State Experiment Station, and graduate student, Kansas State Agricultural College.

Russell Arthur Oakley, Washington, D. C. Expert agrostologist, United States Department of Agriculture.

Anna Louella O'Daniel, Manhattan, Kan. At home.

Clara Pancake, Manhattan, Kan. Assistant in domestic science, Kansas State Agricultural College.

Celoa Alice Perry, Manhattan, Kan. Pianist in music store.

Alexis Joseph Reed, 197 East Blackhawk street, Chicago, Ill. Special apprentice with Western Electric Company.

Earl Nathaniel Rodell, Manhattan, Kan. Assistant in printing, Kansas State Agricultural College.

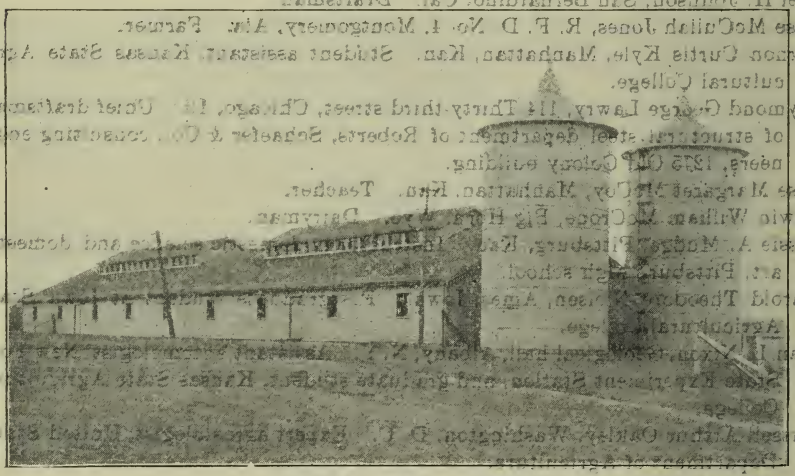
Alice May Ross, Manhattan, Kan. Teacher at Streator, Ill.

Alfred Hayes Sanderson, Marysville, Kan. Farmer.

Henry August Sidorfsky, Mill Creek Station No. 3, Craftonville, Cal. Electrician.

Emma Estella Smith, R. F. D. No. 1, Wamego, Kan. Deputy county clerk, at Alma, Kan.

Harold Addison Spilman, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Lois Stump, Manhattan, Kan. At home.
Harry Raymond Thatcher, lock box 623, Houston, Tex. Foreman of ranch.
Helen B. Thompson, Manhattan, Kan. Assistant in preparatory department, Kansas State Agricultural College.
John Augustus Thompson, 711 Cornell avenue, Kansas City, Kan. Letter carrier.
Sarah Pauline Thompson, Osborne, Kan. At home.
Dovie May Ulrich, Manhattan, Kan. Teacher.
Harry Nelson Vinall, Crete, Neb. Nurseryman.
Alberta Suena Voiles, Manhattan, Kan. Teacher.
Leon Vincent White, Manhattan, Kan. Advance agent for dramatic company.



DAIRY BARN AND SILOS.

Summary.

The number of graduates up to 1904 is 921, of whom 348 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of bachelor of arts. Since 1877, all have received the degree of bachelor of science, after a four-year course in the sciences, with good English training.

Of the 573 men, 29 are deceased, and the remainder are reported in the following occupations:

Farmers and stock-raisers	113
Farm foremen	8
Fruit-growers, nurserymen, gardeners, and florists	17
Creamerymen	8
Superintendent of agricultural experiment stations	1
Professors and assistants in experiment stations and agricultural colleges	27
In United States Department of Agriculture	25
Secretary of board of agriculture	1
Solar observer	1
Teachers and employees in Indian service	10
Mechanics	9
Manufacturers	5
Miners	4
Architects and builders	6
Draftsmen	9
Civil, electrical, mining and mechanical engineers	20
Telephone and telegraph operators and managers	2
Veterinary surgeons	2
Postmasters and assistants	6
Piano-tuner	1
In military and naval service	10
Regents Kansas State Agricultural College	3
Professors and instructors in colleges	21
Superintendents and teachers in public schools	25
Graduate students, Kansas State Agricultural College	11
Students in other institutions	14
Ministers and secretaries of Y. M. C. A	12
Journalists	22
Merchants	34
Commercial travelers	8
Agents	12
Clerks, bookkeepers, and stenographers	15
Officials and managers	8
In United States civil service	9
Physicians, students of medicine, chemists, druggists, dentists	37
Lawyers	24
District judge	1
County and state officials	12
Bankers and cashiers	8
Hotel proprietors	2
Liveryman	1
Lecturer	1
Unknown	20
Total	585
In two occupations	41
	544

Of the 348 women, 17 are deceased, and the remainder occupied as follows:

Housewives	147
Teachers of domestic science and domestic art, and dietitians	15
Nurses	6
Physicians	2
Professors and assistants in agricultural colleges and experiment stations	23
In United States Department of Agriculture	1
Secretary of Kansas State Agricultural College	1
Librarian	1
Professors and instructors in colleges	6
Teachers of art and music	5
Teachers in public schools	54
Kindergarten teacher	1
Graduate students, Kansas State Agricultural College	9
Students in other institutions	9
Milliners and dressmakers	2
Bookkeepers, stenographers, and clerks	16
Secretary of Young Women's Christian Association	1
Journalist	1
Telegraph operator	1
At home	35
Unknown	2
Total	338
In two occupations	7
	331

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1905.

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Forty-second Annual Catalogue

of the

Officers, Students and Graduates

of the

Kansas State Agricultural College,

Manhattan.

1904-'05.

Printed by
GEO. A. CLARK, State Printer,
May, 1905.

GENERAL VIEW.

Terms and Vacations.

Fall Term, 1905, Thirteen Weeks.

Wednesday, September 20.—Examination for admission, at nine a. m.
Thursday, September 21.—College year begins.
Tuesday, October 3.—Short course in domestic science begin.
Saturday, November 4.—Mid-term examination.
Thursday, November 30.—Thanksgiving Day vacation.
Thursday and Friday, December 21, 22.—Examination at close of term.

Winter Term, 1906, Twelve Weeks.

Tuesday, January 2.—Examination for admission, at nine a. m.
Wednesday, January 3 —Winter term begins.
Wednesday, January 3.—Short courses in agriculture and dairying begin.
Saturday, January 27.—Annual inter-society oratorical contest.
Saturday, February 10.—Mid-term examination.
Thursday and Friday, March 22, 23.—Examination at close of term.

Spring Term, 1906, Eleven Weeks.

Monday, March 26.—Examination for admission, at nine a. m.
Tuesday, March 27.—Spring term begins.
Saturday, May 5.—Mid-term examination.
Tuesday and Wednesday, June 12, 13.—Examination at close of year.
June 10 to 14.—Exercises of commencement week.
Thursday, June 14, at ten a. m.—Commencement.
June 15 to September 19.—Summer vacation.

Fall Term, 1906.

Wednesday, September 19.—Examination for admission, at nine a. m.
Thursday, September 20.—College year begins.

Students must be present the very first day of each term or render a reasonable excuse. Failure to take out an assignment will not be accepted as an excuse.

Board of Regents.

HON. J. W. BERRY (1907),[1] *President*,
Jewell, Jewell county.

HON. J. O. TULLOSS (1907), *Vice-president*,
Sedan, Chautauqua county.

HON. E. T. FAIRCHILD (1907),
Ellsworth, Ellsworth county.

HON. J. S. McDOWELL (1909),
Smith Center, Smith county.

HON. A. M. STORY (1909),
Manhattan, Riley county.

HON. GEO. P. GRIFFITH (1909),
Hays, Ellis county.

PRES. E. R. NICHOLS (*ex officio*), *Secretary*,
Manhattan, Riley county.

MISS LORENA E. CLEMONS, *Assistant Secretary*,
Manhattan, Riley county.

---

1. Term expires.

Board of Instruction.

The Faculty.

ERNEST R. NICHOLS, D. B. (Iowa State Normal School), A. M. (State University of Iowa),
President.

JOHN D. WALTERS, M. S. (Kansas State Agricultural College),
Professor of Architecture and Drawing.

JULIUS T. WILLARD, M. S. (Kansas State Agricultural College),
Professor of Chemistry.

EDWIN A. POPENOE, A. M. (Washburn),
Professor of Entomology and Zoology, Curator of the Museum.

BENJAMIN L. REMICK, Ph. M. (Cornell College),
Professor of Mathematics.

BENJAMIN F. EYER, B. S. (Armour Institute),
Professor of Physics and Electrical Engineering.

HERBERT F. ROBERTS, A. B. (University of Kansas), M. S. (Kansas State Agricultural College),
Professor of Botany.

WILLIAM ARCH McKEEVER, A. M. (Univsrsity of Kansas), Ph. M. (University of Chicago),
Professor of Philosophy.

EDMUND B. McCORMICK, S. B. (Massachusetts Institute of Technology),
Professor of Mechanical Engineering, Superintendent of Shops.

ALBERT DICKENS, M. S. (Kansas State Agricultural College),
Professor of Horticulture, Superintendent of Orchards and Gardens.

CLARK M. BRINK, A. M. (U. of R.), Ph. D. (University of City of New York),
Professor of English.

ALBERT M. TEN EYCK, B. Agr. (Wisconsin),
Professor of Agriculture, Superintendent of Farm.

MRS. HENRIETTA W. CALVIN, B. S. (Kansas State Agricultural College),
Professor of Domestic Science.

RALPH R. PRICE, A. B. (Baker), A. M. (University of Kansas),
Professor of History and Civics.

JULIUS E. KAMMEYER, A. M. (Central Wesleyan College),
Professor of Economics.

OSCAR ERF, B. S. Agr. (Ohio State University),
Professor of Dairy and Animal Husbandry.

PEARL M. SHAFFER, Captain Twenty-fifth Infantry, U. S. A.,
Professor of Military Science.

JOHN V. CORTELYOU, A. M. (University of Nebraska), Ph. D. (Heidelberg),
Professor of German.

OLOF VALLEY, B. M. (Chicago Conservatory of Music),
Professor of Music.

FRANCIS S. SCHOENLEBER,[1] M. S. A. (Iowa State Agricultural College), D. V. S. (Chicago Veterinary College), M. D. (National Medical University and Harvey Medical College),
Professor of Veterinary Science.

JOSHUA D. RICKMAN (International Typographical Union),
Superintendent of Printing.

BENJAMIN S. McFARLAND, A. M. (Miami),
Principal of Preparatory Department.

Miss MARGARET J. MINIS, B. S. (Kansas State Agricultural College),
Librarian.

Miss MARGUERITE E. BARBOUR, (Sargent Normal School of Physical Training),
Director of Physical Training.

Miss FRANCES M. BARNES, (Clarkson School of Technology),
Superintendent of Domestic Art.

Miss LORENA E. CLEMONS, B. S. (Kansas State Agricultural College),
Secretary.

Assistants.

JACOB LUND, M. S. (Kansas State Agricultural College),
Superintendent Heat and Power Department.

Miss ALICE RUPP (Indiana State Normal), A. M. (Kansas State Agricultural College),
Assistant Professor of English.

CLARENCE L. BARNES, D. V. M. (Cornell University),
Assistant Professor of Veterinary Science.

1. Since April 1, 1905.

JOHN O. HAMILTON, B. S. (University of Chicago),
Assistant Professor of Physics.

OSCAR H. HALSTEAD, B. S. (Kansas State Agricultural College),
Assistant Professor of Mathematics.

CHARLES E. PAUL,[2] S. B. (Massachusetts Institute of Technology),
Assistant Professor of Mechanical Engineering.

ROLAND J. KINZER, B. S. Agr. (Iowa State College),
Assistant Professor of Animal Husbandry.

ANDREY A. POTTER,[3] S. B. (Massachusetts Institute of Technology),
Assistant Professor of Mechanical Engineering.

Miss ADA RICE, B. S. (Kansas State Agricultural College),
Instructor in English.

WALTER E. MATHEWSON, B. S. (Kansas State Agricultural College),
Instructor in Chemistry.

FRANK M. McCLENAHAN, A. M. (Yale),
Instructor in Chemistry.

WILLIAM L. HOUSE,
Foreman of Carpenter Shop.

ROBERT H. BROWN, B. M. (Kansas Conservatory of Music), B. S. (Kansas State Agricultural College),
Assistant in Music.

WILLIAM ANDERSON, B. S. (Kansas State Agricultural College),
Assistant in Physics.

Miss GERTRUDE BARNES,
Assistant Librarian.

LOUIS WABNITZ,
Foreman of Machine-shops.

Miss INA E. HOLROYD, B. S. (Kansas State Agricultural College), (Kansas State Normal),
Assistant in Preparatory Department.

Miss HETTY G. EVANS (Massachusetts Normal Art School),
Assistant in Drawing.

VERNON M. SHOESMITH, B. S. (Michigan Agricultural College),
Assistant in Agriculture.

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2. Till January 1, 1905. 3. Since January 1, 1905.

AMBROSE E. RIDENOUR, B. S. (Kansas State Agricultural College),
Foreman of Foundry.

GEORGE A. DEAN, B. S. (Kansas State Agricultural College),
Assistant in Entomology.

Miss EMMA J. SHORT,
Assistant in Preparatory Department.

Miss INA F. COWLES, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

Miss MAUDE M. COE, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

ROSCOE H. SHAW, B. S. (New Hampshire College of Agriculture and Mechanic Arts),
Assistant Chemist, Experiment Station.

THEO. H. SCHEFFER, A. M. (Cornell University),
Assistant in Zoology.

Miss KATE TINKEY,
Assistant Librarian.

EARL N. RODELL, B. S. (Kansas State Agricultural College),
Assistant in Printing.

Miss CAROLINE HOPPS, Ph. B. (University of Chicago),
Assistant in English.

Miss HELEN THOMPSON, B. S. (Kansas State Agricultural College),
Assistant in Preparatory Department.

Miss ELLA WEEKS, A. B. (University of Kansas),
Assistant in Drawing.

Miss FLORA ROSE (Framingham, Mass., Normal), B. S. (Kansas State Agricultural College),
Assistant in Domestic Science.

Miss CLARA PANCAKE, B. S. (Kansas State Agricultural College),
Assistant in Domestic Science.

R. F. BOOTH, B. S. (Northwestern),
Assistant in Mathematics.

GEO. C. WHEELER,[4] B. S. (Kansas State Agricultural College),
Assistant in Feeding Experiments.

Miss FLORENCE H. VAIL,[5] B. S. (Kansas State Agricultural College),
Assistant in Chemistry

4. Till April 6, 1905.

5. Till January 1, 1905.

ROBERT E. EASTMAN, M. S. (Cornell University),
Assistant in Horticulture.

Miss DAISY ZEININGER, B. A. (Fairmount),
Assistant in Mathematics.

ROY A. SEATON, B. S. (Kansas State Agricultural College),
Assistant in Mathematics.

HERNON C. KYLE, B. S. (Kansas State Agricultural College),
Assistant in Agriculture.

GEORGE F. FREEMAN, B. S. (Alabama Polytechnic Institute),
Assistant in Botany.

M. FRANCIS AHEARN, B. S. (Massachusetts Agricultural College),
Foreman of Greenhouses.

FRED C. NICHOLSON,[6]
Foreman of Blacksmithing.

CHAS. S. DEARBORN,[7] B. S. (Kansas State Agricultural College),
Assistant in Mechanical Engineering.

Miss CECELIA AUGSBURGER,[8] (Illinois Wesleyan),
Assistant in Music.

CHARLES W. MELICK,[9] B. S. (University of Nebraska),
Assistant in Dairy Husbandry.

ROBERT J. FOSTER,[10] D. V. M. (Cornell),
Assistant in Veterinary Science.

Miss ALICE LOOMIS, B. S., (Kansas State Agricultural College),
Assistant in Preparatory Department.

ELMER GARDNER,[11]
Assistant in Heat and Power Department.

C. A. McMILLAN,[12]
Assistant in Heat and Power Department.

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6. Since September 15, 1904.
7. Since September 20, 1904.
8. Since October 1, 1904.
9. Since November 1, 1904.
10. Since November 1, 1904,
11. Till September 4, 1904.
12. Since October 1, 1904.

Other Officers.

MISS C. JEANETTE PERRY,[13] B. S. (Kansas State Agricultural College),
Executive Clerk.

MISS ALICE M. MELTON, B. S. (Kansas State Agricultural College),
Clerk in Director's Office.

MISS SARAH HOUGHAM, B. S. (Kansas State Agricultural College),
Clerk in Botanical Department.

CHARLES HUGHES,[14]
Secretary to President.

ARCHIE HUYCKE,[15]
Secretary to President.

WILLIAM R. LEWIS,
Janitor.

Student Assistants.

RAYMOND R. BIRCH, Dairying.
HELEN E. BOTTOMLY, Preparatory.
JOHN W. CALVIN, Chemistry.
MARY P. COLLIVER, Preparatory.
BERNARD C. COPELAND, Dairying.
JULES C. CUNNINGHAM, Horticulture.
MARY E. DAVIS, B. S., Preparatory.
LEONARD R. ELDER, Surveying.
CHARLES W. FRYHOFER, Dairying.
NORA HAYS, Preparatory.
GEORGE O. KRAMER, Animal Husbandry.
WILLIAM C. LANE, Surveying.
DANIEL A. LOGAN, Surveying.
ROLAND J. McKEE, B. S , Horticulture.
JENS NYGARD, Chemistry.
AMER B. NYSTROM, Dairying.
CRETE SPENCER, Preparatory.
ELIZABETH SWEET, B. S., Physiology.
JOHN B. THOMPSON, Horticulture.
MARCIA TURNER, Preparatory.

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13. Till April 1, 1905.
14. Till May 1, 1905.
15. Since May 23, 1905.

Experiment Station.

The Council.

President NICHOLS, Chairman.
Professor WILLARD, Chemist and Director.
Professor POPENOE, Entomologist.
Professor ROBERTS, Botanist.
Professor DICKENS, Horticulturist.
Professor TEN EYCK, Agriculturist.
Professor ERF, Dairy and Animal Husbandman.
Professor SCHOENLEBER,[2] Veterinarian.

Assistants.

VERNON M. SHOESMITH, Agriculture.
GEO. A. DEAN, Entomology.
CLARENCE L. BARNES, Veterinary Science.
ROSCOE H. SHAW, Chemistry.
ROLAND J. KINZER, Animal Husbandry.
ROBERT E. EASTMAN, Horticulture.
GEORGE F. FREEMAN, Botany.
MISS ALICE M. MELTON, Clerk in Director's Office.

Fort Hays Branch.

JOHN G. HANEY,[1] Superintendent.
OTTO H. ELLING, Foreman.
A. D. COLLIVER,[2] Assistant in Agriculture.
J. L. PELHAM,[2] Assistant in Horticulture.
GEO. K. HELDER, Bookkeeper.

1. Till January 1, 1905. 2. Since April 1, 1905.

The College Battalion.

The following is a roster of the commissioned and non-commissioned officers of the Kansas State Agricultural College corps of cadets for 1904–'05:

CAPT. PEARL M. SHAFFER, Twenty-fifth United States Infantry, Commandant of Cadets.

STAFF.

H. W. BAKER.....Cadet Captain and Quartermaster.
E. J. EVANS.....Cadet First Lieutenant and Battalion Adjutant.
M. R. SHULER.....Cadet Second Lieutenant and Battalion Quartermaster.
J. W. PAINTER.....Cadet Sergeant-major.
J. S. MONTGOMERY.....Cadet Quartermaster Sergeant.
R. A. GASTON.....Cadet Color Sergeant.

INFANTRY, BY COMPANIES.

RANK.	Company A.	Company B.	Company C.
Captain	A. N. H. Beeman	F. Van Dorp	F. E. Balmer.
First Lieutenant	C. H. Withington	E. A. Cole	L. J. Munger.
Second Lieutenant	L. E. Hazen	E. L. Shattuck	F. O. Haasman.
First Sergeant	J. M. Ryan	E. Patee	J. W. Calvin.
Sergeants	E. Bull	J. A. Lupfer	M. M. Justin.
	W. H. Cook	S. W. Cunningham	F. Farrar.
	O. J. Olson	F. C. Harris	C. Lambert.
	C. L. McClaskey	C. Walker	H. Oman.
Corporals	F. B. Milliken	D. F. Foote	J. M. Garrity.
	W. M. Hemphill	C. E. Meade	A. G. Philipps.
	R. W. Brink	I. A. Wilson	C. J. Willard.
	E. Emslie	W. Anderson	
	R. A. Grant	S. Haan	

The College Band.

The following is the roll of the College Band for year 1904–'05:

Asst. R. H. BROWN, Director.

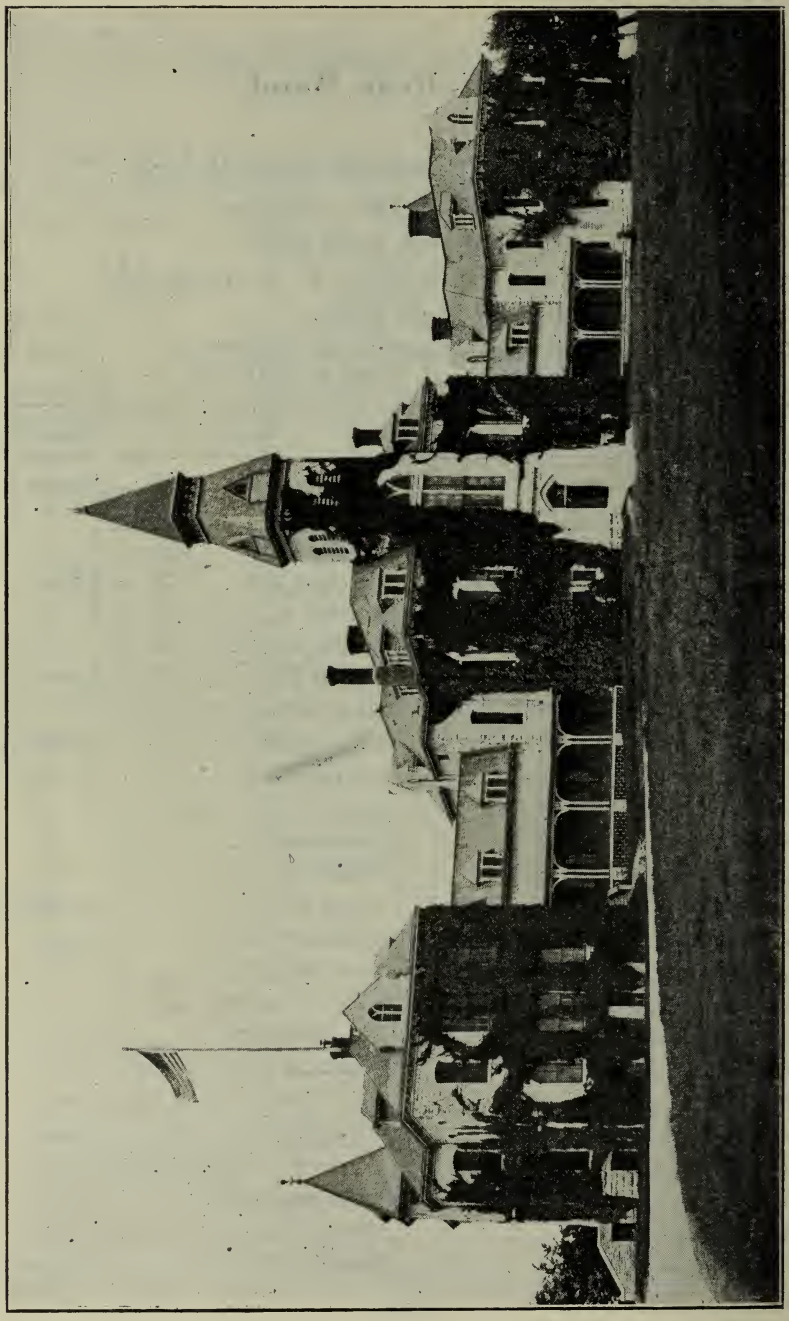
F. W. Wilson, Drum Major.

Sergeants: G. L. Wright, C. B. Swift, F. W. Grabendike, H. B. Hubbard, H. E. Bixby.

Corporals: M. Elsas, R. W. Ferrell, A. G. Kittell, H. E. Porter, A. H. Rose, D. Walters.

Name.	Instrument.	Name.	Instrument.
Hoffman, A. H	Flute.	Souders, C. A	Cornet.
Horstman, M. N	Piccolo.	Spohr, G. A	"
Lawson, L. W	"	Wright, G. A	"
Bixby, H. E	Saxophone.	Crawford, H. B	Horn.
Ferrell, R. W	"	Marshall, C	"
Carnahan, J. R	Clarinet.	Morgan, L. C	"
Coxen, J. R	"	Neer, D. M	"
Cudney, E. W	"	Rose, A. H	"
Grabendike, F. W	"	Cudney, E. W	Trombone.
Hanson, O. H	"	Missildine, J. G	"
Hubbard, H. B	"	Rhodes, A. J	"
Machin, F. R	"	Tinkham, M. R	"
McCreary, A	"	Walters, D	"
Roberts, P. M	"	Kittell, A. G	Baritone.
Strong, H. D	"	Biddison, W. V	Bass.
Brinkman, H. W	Cornet.	Porter, H. E	"
Cowles, A. J	"	Seng, A. W	"
Douglass, S. C	"	Seng, H. H	"
Elsas, M	"	Spuhler, H. A	"
Hoffman, L	"	Swift, C. B	"
Johnson, E. M	"	Evans, R. K	Drum.
Lewis, F. C	"	Kipp, C. L	"
Paro, N	"	McCampbell, A. D	"
Perfect, K	"	Winters, F. W	"
Perry, C. A	"	Schmidler, H. W	Tympani.

Total, 52.



ANDERSON (MAIN) HALL.

History and Resources.

THE income of the College is derived from two sources—national and state. The original land-grant act was signed by President Lincoln July 2, 1862. This act appropriated 30,000 acres of land for each senator and representative in Congress. Under the provisions of this act this state was to receive 90,000 acres. The amount actually received was 82,313.52. This land was to be sold and the proceeds to be a permanent endowment, to be invested in bonds bearing not less than five per cent. interest. The amount of this endowment is $492,-381. "The interest of which shall be inviolably appropriated by each state which may take and claim the benefit of this act to the endowment, support and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

The income derived from this endowment since 1880 is given in the column headed "Income Fund," page 16.

Under this act, the state of Kansas, in 1863, established the State Agricultural College, by endowing Bluemont College, which had been erected two miles from Manhattan, under the auspices of the Methodist Episcopal church, but was presented to the state for the purpose named in the act of Congress.

In 1873 the College was reorganized upon a thoroughly industrial basis, with prominence given to agriculture and sciences related thereto; and in 1875 the furniture and apparatus of the College were moved to the farm of 223 acres, one mile from the city of Manhattan.

In March, 1887, Congress passed the "Hatch bill," which provided for the organization in each state of a station for agricultuaal experiments, and gave to each an annual appropriation of $15,000 for this purpose. See "Experiment Station," page 22.

On August 30, 1890, another act was passed by Congress, known as the "Morrill bill." It provided for an annual appropriation, beginning with $15,000 for year ending June 30, 1890, with an annual increase for ten years of $1000 over the preceding year, the annual amount thereafter to each state to be $25,000. This money is "to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic sciences, with especial reference to their applications in the industries of life, and to the facilities for such instructions."

TABULATED FINANCIAL EXHIBIT.

Fiscal Year.	State Appropriations.								Inventory increase	Expense	National Appropriations.			Enrolment	Graduates
	Miscellaneous	Current expense	Water and coal	Repairs	Library	Equipment	Buildings	Total			Income fund	Morrill fund	Hatch fund		
1863-'80							$45,645	$155,302	$86,009						56
1880-'81	$17,979[1]			$800		$1,950		2,750	3,316	$19,502	$24,766			267	8
1881-'82					$1,000		15,000	16,000	19,784	27,914	17,622			312	9
1882-'83					1,000		15,000	16,000	24,448	29,660	31,551			347	12
1883-'84				500	500	500	7,500	9,000	12,295	34,844	32,638			395	17
1884-'85	4,613[1]			500	500	500	15,000	16,500	37,105	42,646	32,213			402	14
1885-'86				700		600	10,000	11,300	34,721	45,827	38,595			428	21
1886-'87				1,400			4,100	5,500	12,910	38,788	32,253			481	21
1887-'88	2,264[1]			1,000	1,000	4,700	8,817	15,517	16,597	35,768	32,331		$15,000	472	22
1888-'89	3,000[2]			1,000	1,000	2,500		7,500	10,334	32,027	31,686		15,000	445	25
1889-'90			$1,425	1,900	1,000	2,900	1,000	8,225	8,732	29,892	34,131		15,000	514	27
1890-'91			1,649	1,200	1,000	2,950		6,799	6,857	43,330	28,765	$31,000	15,000	593	52
1891-'92	3,000[2]		325	3,050	250		4,000	10,625	15,219	50,722	29,654	17,000	15,000	584	35
1892-'93			500	1,500	250			2,250	18,381	57,012	30,187	18,000	15,000	587	39
1893-'94			484	1,000			74,000	75,484	7,846	54,989	29,761	19,000	15,000	555	39
1894-'95			190				2,000	2,190	79,736	51,156	29,390	20,000	15,000	572	57
1895-'96	1,625[3]		1,995	4,300	999	5,057	3,480	17,456	13,933	51,928	26,988	21,000	15,000	647	66
1896-'97		$10,000	2,084	1,300	1,000	550	1,300	16,234	157	51,500	28,669	22,000	15,000	734	55
1897-'98	629[4]	5,000	2,000	1,700	1,000	3,200	16,599	30,128	16,171	56,516	27,677	23,000	15,000	803	69
1898-'99		5,000	2,000	1,000		1,050		9,050	2,993	63,704	29,549	24,000	15,000	870	53
1899-1900	7,360[5]	10,000	2,250	3,000	1,500	22,240	43,500	89,850	45,582	56,956	25,160	25,000	15,000	1,094	58
1900-'01	18,993[6]	10,000	2,250	3,000	1,500			35,743	3,380	65,822	30,910	25,000	15,000	1,321	60
1901-'02	4,130[7]	25,000	2,800	3,000	1,500	9,100	75,000	120,530	79,917	73,467	25,371	25,000	15,000	1,396	52
1902-'03	4,130[7]	30,000	2,800	3,000	1,500	8,500	10,000	59,930	47,234	91,891	22,970	25,000	15,000	1,574	54
1903-'04	15,830[8]	40,000	5,000	5,000	1,500	18,500	65,000	150,830	82,490	96,631	25,688	25,000	15,000	1,605	102
1904-'05	5,330[9]	50,000	3,500	5,000	1,500	18,500	5,000	88,830				25,000	15,000		
1905-'06		90,000					42,000	132,000				25,000	15,000		
1906-'07		100,000					28,000	128,000				25,000	15,000		
Total								$1,239,523							

[1] To restore endowment (not included in totals). [2] Water-mains and sewer.
[3] $1500 cadet uniforms, $125 sewers. [4] Rent president's house.
[5] $2000 farmers' institutes, $1800 salary state veterinarian, $3000 sewer, $500 rent president's house.
[6] $2000 farmers' institutes, $1800 salary state veterinarian, $300 rent president's house, $14,893 deficiency June 30, 1899.
[7] $2000 farmers' institutes, $1800 salary state veterinarian, $330 rent president's house.
[8] $2000 farmers' institutes, $2000 salary state veterinarian, $330 rent president's house, $10,500 purchase of land, $1000 contingent fund.
[9] $2000 farmers' institutes, $2000 salary state veterinarian, $330 rent president's house, $1000 contingent fund.

Grounds and Buildings.

THE College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing toward the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard and sample gardens attached, the whole being surrounded by durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape-gardener, while well-graveled drives and good walks lead to the various buildings. All these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation-rooms are excellently lighted and ventilated, and are heated by steam or hot water. A complete system of sewerage has been provided. The College owns 430 acres of land, valued at $50,000, and leases 150 acres additional. The greater portion of these 580 acres is devoted to experiments.

ANDERSON (MAIN) HALL is 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices of the President and Secretary, cloak-rooms, studies, chapel, post-office, and offices and classrooms of the departments of drawing, music, mathematics, oratory, English, philosophy, preparatory, and printing. Cost, $79,000. The value of the equipment and apparatus in this building is as follows: Executive, $6799; drawing, $2361; music, $2179; mathematics, $1581; oratory, $57; English, $84; preparatory, $48; printing, $5220.

MECHANICS HALL contains the following rooms, forming a connected structure: Wood shop, two stories, 40x103 feet. The upper floor contains office and drafting-room for the department of mechanical engineering. The lower floor contains benches for 220 students, and complete set of wood-working machinery and tools. Machine-shop, 40x80 feet; blacksmith shop, 40x50 feet; iron foundry, 40x50 feet; brass foundry, 16x30 feet; pipe-fitting room, 18x50 feet; engineering laboratory, 35x40 feet; power-room, 35x40 feet; boiler-room, 40x75 feet. Cost of buildings, $28,125; value of equipment, $32,594.

GYMNASIUM, one story, 35x110 and 46x75 feet of floor space, is in form of a cross. It contains a drill-room 46x75 feet, a large class-

room, cloak-room, dressing-room, toilet-room, ten bath-rooms, and two offices. Cost, $10,000. Value of equipment, $620.

Horticultural Hall, 32x80 feet, is a one-story building with cellar, having museum, classroom, and storage, with greenhouses attached. Cost of building was $4200; value of equipment and apparatus is $19,908.

Horticultural Laboratory contains offices, workroom, five propagating houses, and insectary. Cost, $5000.

Armory, 46x95 feet, is a two-story building. This building, which has served many purposes, is now fitted below for an armory and drill-room, and offices of military department; also dressing-room and bath-room for the various athletic teams; and above are classrooms, laboratories, offices and museum of the veterinary department. Cost of building, $11,250. Value of equipment and apparatus: Military, $135; veterinary, $6336.

Fairchild (Library) Hall is 100x140 feet. three and four stories high. This building provides permanent quarters for the library, with ample reading-rooms and offices, classrooms and laboratories for the departments of botany, entomology and zoology, and bacteriology, a classroom and office for the department of history and economics, general museum, and rooms for the various literary societies. Cost of building, $67,750. Value of equipment and apparatus: Botany, $15,083; history and economics, $181; entomology and zoology, $9580.

Kedzie (Domestic Science) Hall is 84x70 feet, two stories and basement. The first floor contains office, lecture-rooms and laboratories for the department of domestic science. The second floor is occupied by the department of domestic art. Cost of building, $15,000. Value of apparatus: Domestic science, $1960; domestic art, $558.

Agricultural Hall, 90x95 feet, with its two stories and basement, contains offices, classrooms and laboratories for the departments of agriculture and animal husbandry. Cost of building, $25,000. Value of equipment: Agriculture, $3173; animal husbandry, $24,611.

Physical Science Hall is 96x166 feet, and its two stories and basement contain offices, classrooms and laboratories for the departments of chemistry, and physics and electrical engineering. It is heated both by direct and indirect radiation, thus insuring perfect ventilation. Cost of building, $70,000. Value of equipment: Chemistry, $11,520; physics and electrical engineering, $11,223.

Auditorium is 113x125 feet, and has a seating capacity of 3000 Cost of building, $40,000.

Dairy Hall is 72x103 feet, one story and basement. It contains

office, classroom, butter-manufacturing room, cheese- and cheese-curing rooms, hand-separator room, laboratory, and refrigerator. Cost of building, $15,000.

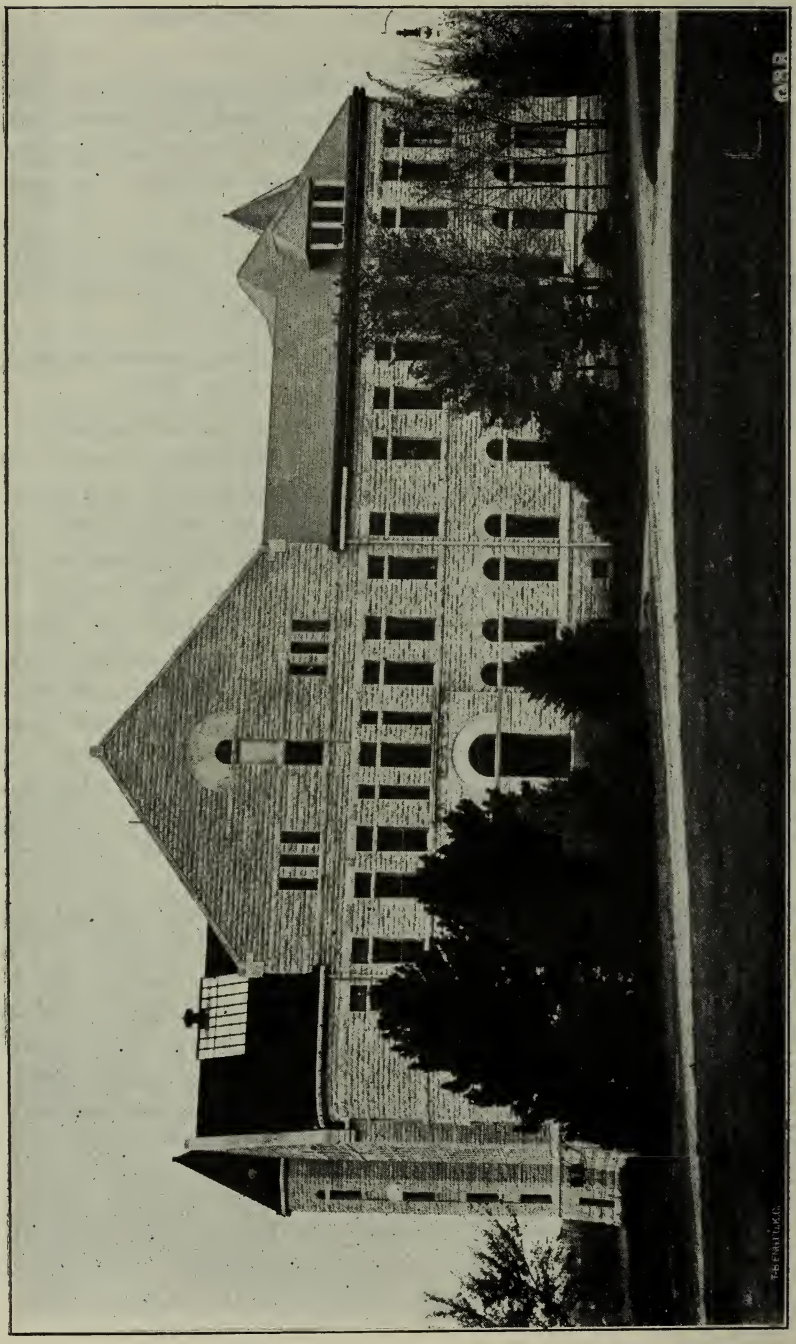
THE FARM BARN is a double but connected stone structure, 50 x 75 feet and 48 x 96 feet, with an addition of sheds and experimental pens 40 x 50 feet. The south wing, 48 x 96 feet, is the stock-judging room, having a seating capacity of 350. A basement underlies the entire structure. Cost, $10,831.

THE DAIRY BARN, 40 x 175 feet, is fitted up with modern swinging stalls for eighty head of cows, arranged in two rows, with driveway between. Cost of building and equipment, $4000.

THE HORTICULTURAL BARN is a stone building, containing store-room, granary, and stables for several horses. Cost, $1000.

THE COLLEGE LIBRARY is one of the most important supplements to classroom instruction. It consists of 30,950 bound volumes and about 18,000 pamphlets. These books are mainly kept in a general library, but many volumes of technical character are withdrawn and held in departmental libraries. All of the books are indexed in card catalogues, which show their author, title, and to a large degree the details of their contents; also their location. Students are allowed free access to the shelves, a privilege and a source of culture that is given in perhaps no other library of its size in the country. Students may draw books for home use under simple and liberal regulations. The library is open daily, except on legal holidays, from seven A. M. to six P. M., and the librarian or an assistant is in constant attendance during this period to assist those who use the books. By all these means the library is used to the fullest extent and is of inestimable value.

The College subscribes for the leading literary, scientific and agricultural journals, while the principal daily and weekly papers of Kansas, and many from other states, are received in exchange for the College publications. All these are kept on file for the use of students and Faculty. The College has been designated as the depository of United States public documents for the fifth congressional district of Kansas, and 3580 volumes have already been received on this account. Value of books and equipment, $61,011.



FAIRCHILD (LIBRARY) HALL.

Objects.

This College now accomplishes the objects of its endowment in several ways:

First. It gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second. It teaches the sciences applied to the various industries of farm, shop, and home. Chemistry, physics, botany, entomology, zoology and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants and animals themselves illustrates and fixes the daily lessons. At the same time lessons in agriculture, horticulture, engineering and household economy show the application of science; and all are enforced by actual experiment.

Third. It trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm and household departments is made a part of the general education for usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.

Fourth. It seeks to extend the influence of knowledge in practical affairs beyond the College itself. For this purpose, farmers' institutes have been organized in nearly every county of the state, in which from one to three members of the Faculty share with the people in lectures, essays and discussions upon topics of most interest to farmers and their families. These institutes have brought the College into direct sympathy with the people and their work, so as to make possible a general dissemination of the truths presented. Members of the Faculty are also prominently connected with the state associations for the promotion of agriculture, horticulture, and natural sciences, and education in general. Correspondence as to farmers' institutes or any question of practical interest in agriculture or related sciences is desired.

The *Industrialist*, published by the College, edited by the Faculty, and furnished to each student, gives a wide circulation to matters of interest in the College.

THE EXPERIMENT STATION.

The Agricultural Experiment Station of the College is organized and maintained under the provisions of what is known as the "Hatch act." It is officially designated as "An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July 2, 1862, and the acts supplementary thereto." This was enacted "in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and practice of agricultural science." The law specifies in detail "that it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses for forage-plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The Experiment Station, so established, is an important feature of the College. The President of the College, with the professors of agriculture, botany, chemistry, dairy and animal husbandry, horticulture, entomology, and veterinary science, form the Experiment Station Council, by authority of which experiments are undertaken, and carried on in the several departments under supervision of the professors. The heads of certain important departments of instruction in the College are thus also in charge of the several departments of investigation of the Station, and to a certain extent assistants serve in both capacities. The Experiment Station, therefore, is not definitely localized at the institution, but its work and property are more or less woven in with that of the College. The expenses of the Experiment Station work are separately accounted for, however, and its property is listed in separate inventories. While this arrangement involves some difficulties, it also possesses many advantages—advantages which are mutual. The College work profits by having the investigations of the Sta-

tion going on alongside. The Station profits in that it thus obtains, without charge, the use of the College farm, buildings, heat, light, various collections, museums, and in some cases apparatus. The expenses of the Experiment Station are met by an appropriation by Congress of $15,000 per annum. The aims of the Station may be said to be twofold—those which lead to immediate returns, and those the object of which can be reached only after a series of years. Experiments of the greatest value are often of the latter kind, but if the work of the Station were limited to such, the public would feel that nothing is being accomplished. It is the intention of the Station force to make all of its experiments practical, in the sense that they lead to results which, indirectly if not directly, benefit the agricul-cultural interests of the country.

The Hatch act provides "that bulletins or reports of progress shall be published at least once in three months, one copy of which shall be sent to each newspaper in the state or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the Station will permit." The publications of the Station include annual reports, bulletins, and press bulletins.

Since 1889 the annual reports contain no details of experiments, but simply outlines of the work of the year in general and in the several departments, and including the financial statements required by law. These annual reports, not being of general interest, therefore, are printed in but small numbers, and sent to libraries and officials only, except on special request.

The bulletins are the means of communicating the results of the Station work directly to the farmers. They are issued in the quantities judged necessary to meet the demand. All investigations are described in them when completed, and they are sent to all on our mailing-lists. During the history of the Station the number issued has averaged about eight per annum.

The press bulletins are issued in limited numbers and sent to the papers, to certain state and county officers, and to a considerable number of public or semipublic institutions. They are short, readable, and popular, but at the same time accurate, articles on subjects of current interest, and embodying observations and experiments of members of the Station staff. Extra copies of some of them are printed for use in answering inquiries.

Persons desiring to receive the Station bulletins are requested to address Agricultural Experiment Station, Manhattan, Kan. General correspondence in reference to the Station should be sent in the same way, but inquiries concerning any special line of investigation should be sent to the head of the department in charge of such work.

FORT HAYS BRANCH STATION.—Congress, in an act approved March 27, 1900, ceded the Fort Hays military reservation, containing 7597.93 acres, to the state of Kansas, on condition that the state would establish and maintain there branches of the State Normal School and of the Experiment Station. The state legislature accepted the reservation in an act approved February 7, 1901, and designated a division of the land between the Normal School and the Agricultural College, by which the latter obtained about 3500 acres, including the parts most desirable for agricultural purposes. Situated west of the ninety-ninth meridian, the station will occupy a field entirely different climatically from that of any other station in the country, and the results obtained there ought to benefit a large region extending even beyond the boundaries of the state. Experiments are being tried on a large scale in making tests of varieties and methods of culture, with special reference to the needs of regions with deficient rainfall. Experiments are also made to determine the feeding value of the drought-resisting crops produced. This Branch Station is supported by state appropriations. The funds appropriated by Congress cannot be used for the support of substations.

INDUSTRIAL TRAINING.

This institution is preëminently industrial in its aims, methods, and tendencies. While the pure sciences, mathematics and other studies are rigorously taught, there is constantly present a practical atmosphere which incites the student to an application of the principles taught, and thus lends interest and value to the work. In nearly every term of the four-year course the student gives one hour per day to industrial training of one kind or another. This awakens and deepens sympathy with industry and toil, impresses the student with the essential dignity of labor, thus educating toward the industries instead of away from them, and lays a good foundation for a life-work in industrial and technical lines. Even should students not all return to the farm, the shop, or to housewifery, the wider knowledge afforded them and the broader sympathies engendered cannot but redound to their good, and to the advantage of society at large and the industrial classes in particular.

Throughout the first year young men take their industrial in the shops. They thus get a familiarity with tools and methods which enables them to do the wood- and ironwork commonly needed on the farm, and which is useful to all everywhere. The young women take sewing during the first year, and a certain amount of cooking practice. The utility of this needs no argument. After the first year there are differences in the industrial requirements corresponding to differences in the several courses of study. In the domestic science course the

various lines of household art constitute almost the entire industrial work, floriculture being given one term. In the mechanical engineering course shop work in one or another of its various kinds is required every term. In the agriculture course the industrials include practical instruction in the fields, orchards, gardens, and dairy, and in feeding. The general science course offers more latitude in choice of industrials after the first year. Young women may take sewing, cooking, printing, floriculture, or music. Young men may have woodwork, ironwork, dairying, farming, gardening, fruit-growing, or printing. The availability of these industrials depends somewhat on the season in some cases, so that not all are open each term. In addition to the above, a limited number of students is allowed typewriting as the industrial, upon recommendation of the head of a department having a machine.

The labor of students during assigned industrial time is not paid for, as its object is educational, and the student receives full value in the training afforded. In all the instruction in industrial lines special attention is given to making the courses systematic and progressive. Students desiring to give extra attention to such work are allowed every opportunity that the departments can afford. Many students acquire sufficient proficiency to be able to turn their skill to a financial advantage during the latter terms of their courses, and all who apply themselves with any diligence obtain a training that cannot fail to be of great benefit to them in after-life. The work of the several industrials will be found described in detail under the individual headings.

SPECIAL COURSES.

Persons of suitable age and advancement, who desire to pursue such branches of study as are most directly related to agriculture or other industries, may select such studies, under the advice of the Faculty.

GRADUATE COURSES.

Arrangements can be made for advanced study in the several departments at any time, and outlines of courses will be furnished on application. The electives of the extended course are open to graduates, and special opportunities will be given for investigation and research. Every facility for advancement in the several arts taught at the College will be afforded such students, though they are not required to pursue industrial training while in these courses.

DEGREES.

The degree of bachelor of science is conferred upon students who complete the full course of four years and sustain all the examinations. This degree entitles the holder to credit for studies pursued in any application for state teachers' certificate. (See Laws of 1893.)

The degree of master of science will be conferred in course upon graduates of the College who have received eighteen credits in an approved graduate course, each credit being equivalent to a full study pursued for three months.

Courses will be approved which are in line with any one of the regular undergraduate courses, and include at least six credits in the biological or the physical sciences, or mathematics, and at least six credits in technical or industrial branches.

The principal line of study shall be designated as the major, and another line as the minor study. As nearly as may be, one-third of the time is to be given to the minor and two-thirds to the major study, including in the latter such scientific, mathematical or technical branches as contribute directly to it. The minor study must fill a logical place in the scheme, so that the work as a whole may possess unity. Three minor credits may be a modern language.

Applications for graduate study shall be passed upon by the committee on graduate courses and referred by them to the Faculty for action. If approved by the Faculty, the candidate shall obtain an assignment at the beginning of each term for the studies intended to be pursued during the ensuing term. At the close of each term examinations shall be given in all branches, and the candidate shall be reported as "passed" or "not passed."

Applications for entrance upon graduate study and for changes in major or minor subjects must be presented to the committee on graduate courses within the first week of a College term.

Non-resident candidates will be required to send to the professors in charge of the departments of their major and minor subjects a full and complete report at the middle and end of each term of the work accomplished within that period. Failure to comply with this requirement will cause the candidate to be dropped from the roll of graduate students, to be reinstated only upon approval of the Faculty. At the end of each term the date, place and manner of the examination of non-residents shall be determined by the instructors concerned.

Upon the completion of the required work, and by the 15th day of May of the year in which the degree is desired, each candidate shall present to the committee on graduate courses, typewritten and in duplicate, a satisfactory thesis involving original work along the line of his major subject. Thereupon a special examining committee of three shall be appointed from the Faculty, of whom one member shall represent the major subject and another the minor, who shall examine the candidate orally on the subject-matter of his thesis, and report the result of such examination to the Faculty. Upon receipt

of the report of this committee, the Faculty will take action concerning the recommendation of the candidate for the degree.

The subject of the thesis must be presented to the committee on graduate courses for approval by the 1st day of January preceding the commencement at which the degree is desired.

Outlines of direction for study and research in various arts and sciences, with special adaptation to the wants and opportunities of individual applicants, will be furnished, at request, to all graduates; and professors in charge will gladly aid by correspondence in any researches undertaken.

The degree of master of science may be conferred upon the graduates of other colleges of like grade with our own, provided the applicant shall first satisfy the Faculty of his proficiency in the industrial studies distinctive of this institution, on the following conditions:

1. The applicant for the master's degree must be a graduate of at least three years' standing, and a resident of Kansas.

2. His graduate study shall have been in line with that required of graduates of this College, as published in our catalogue.

3. He must make application for the degree on or before the 1st day of January preceding the granting of the same. The application must be accompanied with a statement of his course of study, the work upon which the claim for the degree is based, and the subject selected for his thesis.

4. By April 1, an abstract of the thesis must be submitted to the Faculty.

5. Before May 15, the applicant shall present himself for examination. The examination shall be thorough and extensive, and shall be conducted by a special committee of the Faculty.

COURSES OF STUDY.

With a view to providing for the wants of the various classes of students, the following courses of study are offered:

1. Four-year courses, each leading to the degree of bachelor of science: (*a*) General science; (*b*) agriculture; (*c*) domestic science; (*d*) mechanical engineering; (*e*) electrical engineering; (*f*) architecture.

2. Short courses in (*a*) dairying, (*b*) domestic science, (*c*) agriculture.

Full explanations of the several courses, and of the studies included in them, will be found under the proper headings, and a general view of the four-year courses is given on the pages following.

All the preparatory and first-year subjects are taught each term, so that students may enter at any term. Students can complete nearly all the work of the first two years by attendance during winter terms only.

ALL COURSES.

FALL TERM.	Geometry I	5
	English Classics	5
	Botany II	5
	Field-work	2
	Free-hand Drawing	2
	Woodwork I or *Sewing I*	4
	Drill or *Physical Training*	4
WINTER TERM.	Geometry II	5
	Advanced Composition	5
	Cooking or Agriculture	5
	Elementary Psychology	1
	Woodwork II or *Sewing II*	3
	Object and Geometrical Drawing	4
	Drill or *Physical Training*	4
SPRING TERM.	Algebra IV	5
	Rhetoric I	5
	Physics	5
	Laboratory	2
	Blacksmithing I or *Sewing III*	4
	Elementary Projection	2
	Drill or *Physical Training*	4

Music is optional throughout the course.

FOUR-YEAR COURSES.

Figures following studies show class hours per week. Subjects in *italic type* require no study outside of class.

Military drill is optional for young men of the third and fourth years.

The electives are chosen under the direction of the Faculty. In each case, the electives are expected to be in the same line as nearly as possible. The following list is announced for the different courses:

AGRICULTURE.

German	German	German.
Dairying	Dairying	Dairying.
Origin of Breeds and Stock Judging	Live-stock Management and Animal Products	Pedigrees and Advanced Feeding.
Pomology	Forestry	Ornamental Gardening.
Plant Diseases	Plant Morphology	Plant-breeding.
Bacteriology	Bacteriology	Bacteriology.
Chemistry	Chemistry	Chemistry.
Veterinary Science	Veterinary Science	Veterinary Science.
Soil Physics	Farm Mechanics II	Crop Production II.

DOMESTIC SCIENCE.

Trigonometry	Physics I	Physics II.
Logic	Ethics	American Literature.
Geology	Plant Morphology	Vegetable-gardening.
History of Education and School Law	Philosophy of Education	Methods and Management.
Bacteriology	Bacteriology	Bacteriology.
Chemistry	Chemistry	Chemistry.

GENERAL SCIENCE.

Analytical Geometry	Differential Calculus	Integral Calculus.
Domestic Science I	Domestic Science II	Domestic Science III.
Animal Nutrition	Breeds of Stock	Animal Breeding.
Dairying	Crop Production	Farm Mechanics and Management.
Entomology	Entomology	Entomology.
Chemistry	Chemistry	Chemistry.
History of Education and School Law	Philosophy of Education	Methods and Management.
Bacteriology	Bacteriology	Bacteriology.
Music	Music	Music.

For outline of instruction, see page 45 *et seq.*

COURSES OF STUDY—Second Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.	ARCHITECTURE.
FALL TERM.	Chemistry I..... 5 *Laboratory*.... 2 Dairying..... 2½ *Laboratory*.... 6 Trigonometry..... 5 *Surveying*..... 2 Public Speaking I.. 2½ *Drill*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Entomology..... 5 *Laboratory*..... 2 German I..... 5 Public Speaking I... 2½ *Physical Training*.. 4 or *Music*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Trigonometry..... 5 *Surveying*..... 2 German I..... 5 *Industrial*..... 4 *Drill*..... 4 *Physical Training*, 4 or *Music*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Trigonometry..... 5 *Surveying*..... 2 German I..... 5 Shop Lectures I..... 1 *Projection Drawing*... 2 *Blacksmithing II*..... 2 *Drill*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Trigonometry..... 5 *Surveying*..... 2 German I..... 5 Shop Lectures I..... 1 *Projection Drawing*... 2 *Blacksmithing II*..... 2 *Drill*..... 4	Chemistry I..... 5 *Laboratory*..... 2 Trigonometry..... 5 *Surveying*..... 2 German I..... 5 Shop Lectures I..... 1 *Proj. Drawing*..... 2 *Blacksmithing II*.. 2 *Drill*..... 4
WINTER TERM.	Chemistry II..... 5 *Laboratory*..... 2 Breeds of Stock.... 2½ *Stock Judging*, 4 Physiology..... 5 *Laboratory*..... 2 Public Speaking II, 2½ *Drill*..... 4	Chemistry II..... 5 *Laboratory*..... 2 Horticulture..... 5 *Floriculture*..... 2 German II..... 5 *Dressmaking and* *Fabrics*..... 6 *Physical Training*.. 4 or *Music*..... 4	Chemistry II..... 5 *Laboratory*..... 2 Entomology..... 5 *Laboratory*..... 2 German II..... 5 Public Speaking I, 2½ *Proj. Drawing*..... 2 *Drill*..... 4 *Physical Training*, 4 or *Music*..... 4	Chemistry IV..... 2½ *Laboratory*..... 4 Kinematics..... 5 German II..... 5 *Descriptive Geometry*, 4 Public Speaking I..... 2½ *Foundry*..... 2 *Drill*..... 4	Chemistry IV..... 2½ *Laboratory*..... 4 Kinematics..... 5 German II..... 5 *Descriptive Geometry*, 4 Public Speaking I..... 2½ *Foundry*..... 2 *Drill*..... 4	Chemistry IV..... 2½ *Laboratory*..... 4 Kinematics..... 5 German II..... 5 *Descriptive Geom*.. 4 Public Speaking I.. 2½ *Foundry*..... 2 *Drill*..... 4
SPRING TERM.	Chemistry III..... 2½ *Laboratory*..... 7½ Horticulture..... 5 *Laboratory*..... 4 Entomology..... 5 *Laboratory*..... 2 *Drill*..... 4	Chemistry III..... 2½ *Laboratory*..... 7½ Physiology..... 5 *Laboratory*..... 2 Public Speaking II.. 2½ German III..... 5 *Physical Training*.. 4 or *Music*..... 4	Chemistry III..... 2½ *Laboratory*..... 7½ Physiology..... 5 *Laboratory*..... 2 Public Speaking II, 2½ German III..... 5 *Drill*..... 4 *Physical Training*, 4 or *Music*..... 4	Chemistry V..... 2½ *Laboratory*..... 4 German III..... 5 Analytical Geometry.. 5 Public Speaking II.... 2½ Shop Lectures II..... 1 *Mech. Drawing I*..... 2 *Pattern-making*..... 2 *Drill*..... 4	Chemistry V..... 2½ *Laboratory*..... 4 German III..... 5 Analytical Geometry.. 5 Public Speaking II.... 2½ Shop Lectures II..... 1 *Mech. Drawing I*..... 2 *Pattern-making*..... 2 *Drill*..... 4	Chemistry V..... 2½ *Laboratory*..... 4 German III..... 5 Analytical Geom... 5 Public Speaking II, 2½ Shop Lectures II.. 1 *Mech. Drawing I*.. 2 *Pattern-making*... 2 *Drill*..... 4

Music is optional throughout the course.

For outline of instruction, see page 45 *et seq.*

COURSES OF STUDY—Third Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.	ARCHITECTURE.
FALL TERM.	European History.. 5 Veterinary Science, 5 Animal Nutrition.. 5 Bacteriology..... 2½ *Laboratory*..... 4 *Horticulture Laboratory*..... 2	Rhetoric II..... 5 Human Nutrition.. 5 Domestic Sci. I.... 2 *Laboratory*..... 4 German IV..... 2½ *Color and Design*.. 4 *Laundering*..... 2 *Music elective.*	European History.. 5 Horticulture .... . 5 Rhetoric II..... 5 German IV..... 2½ *Linear Perspective*, 4 *Industrial*..... 2	Differential Calculus.. 5 Physics I..... 5 *Laboratory*..... 4 Mechanics..... 2½ Shop Lectures III..... 1 *Machine-shop I*..... 4 *Mech. Drawing II*.... 4	Differential Calculus.. 5 Physics I..... 5 *Laboratory*..... 4 Mechanics..... 2½ Shop Lectures III..... 1 *Machine-shop I*..... 4 *Mech. Drawing II*.... 4	Differential Calculus, 5 Physics I..... 5 *Laboratory*..... 4 Mechanics..... 2½ Art Lectures I..... 1 *Linear Perspective*.. 4 *Arch. Drawing*..... 4
WINTER TERM.	Civics..... 5 Crop Production... 5 *Grain Judging*.. 2 Rhetoric II..... 5 *Agricultur'l Chemistry Lab*..... 2	European History.. 5 Zoology..... 5 *Laboratory*..... 4 Domestic Sci. II... 2 *Laboratory*..... 4 German V..... 2½ *Music elective.*	Civics..... 5 Bacteriology..... 2½ *Laboratory*..... 4 Physics III..... 5 *Laboratory*..... 4 German V..... 2½	Integral Calculus..... 5 Physics II..... 5 *Laboratory*..... 4 European History..... 5 *Mech. Drawing III*... 4 *Machine-shop II* 2	Integral Calculus..... 5 Physics II..... 5 *Laboratory*..... 4 European History..... 5 *Mech. Drawing III*... 4 *Machine-shop II*..... 2	Integral Calculus.... 5 Physics II..... 5 *Laboratory*..... 4 European History... 5 Art Lectures II..... 1 *Arch. Drawing*..... 6
SPRING TERM.	American History.. 5 Stock Feeding..... 3 Agricultural Chem. 2 Vegetable-gardening..... 5 Farm Mechanics and Management..... 5	Civics..... 5 Home Decoration.. 2½ Bacteriology..... 2½ *Laboratory*..... 4 Domestic Sci. III.. 2 *Laboratory*..... 4 Home Nursing..... 2½ German VI..... 2½ *Music elective.*	American History.. 5 Zoology..... 5 *Laboratory*..... 4 Physics IV..... 5 *Laboratory*..... 2 German VI..... 2½	Definite Integrals..... 2½ Valve Gears..... ..... 2½ Civics..... 5 Rhetoric II..... 5 Shop Lectures IV..... 1 *Machine-shop III*.... 4 *Mech. Drawing IV*.... 4	Differential Equations, 2½ Electricity..... 5 *Laboratory*..... 6 Civics..... 5 Rhetoric II..... 5	Definite Integrals... 2½ Civics..... 5 Rhetoric II..... 5 Home Architecture.. 2½ Art Lectures III..... 1 *Arch. Drawing*..... 4 *Modeling*..... 4

Music is optional throughout the course.

For outline of instruction, see page 45 *et seq.*

COURSES OF STUDY—Fourth Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECH. ENGINEERING.	ELECT. ENGINEERING.	ARCHITECTURE.
FALL TERM.	Physics III..... 5 *Laboratory*..... 4 Zoology..... 5 *Laboratory*..... 4 Elective..... 5	American History... 5 English Literature I, 5 Household Management.... 5 Elective..... 5	Logic..... 5 Geology..... 5 Economics..... 5 Elective..... 5	American History..... 5 Economics..... 5 Steam-boilers..... 2½ *Eng. Laboratory I*.... 2 Graphic Statics..... 2½ Shop Lectures V..... 1 *Machine-shop IV*..... 2 *Mech. Drawing V*.... 4	American History..... 5 Economics..... 5 Direct-current Machines ..... 5 *Laboratory*..... 4 *Mech. Drawing IV*... 4 *Electrochemistry*..... 2	American History.. 5 Economics..... 5 Heating and Plumbing... 2½ Graphic Statics. .. 2½ Art Lectures IV.... 1 *Arch. Drawing*.... 4 *Architectural Composition I*..... 4
WINTER TERM.	Physics IV..... 5 *Laboratory*..... 2 Economics..... 5 Geology..... 5 Elective..... 5	Eng. Literature II... 5 Dietetics..... 2½ *Laboratory*..... 6 Psychology..... 5 Elective..... 5	Eng. Literature I.. 5 Plant Morphology, 5 *Laboratory*..... 4 Elective..... 5 *Industrial*..... 4	English Literature.... 5 Thermodynamics I.... 5 *Eng. Laboratory II*.. 4 Applied Mechanics I.. 5 Shop Lectures VI..... 1 *Machine-shop V*..... 2 *Mech. Drawing VI*... 2	Direct-current Machines..... 2½ Alternating-current Machines, 2½ *Laboratory*..... 4 English Literature.... 5 Applied Mechanics.... 5 *Eng. Laboratory I*.... 4 *Machine-shop III*.... 2	Eng. Literature.... 5 Geology..... 5 Applied Mech. I... 5 *Art Lectures V*.... 1 *Arch. Drawing*.... 4 *Architectural Composition II*..... 4
SPRING TERM.	English Literature, 5 Animal Breeding.. 5 Elective..... 5 Thesis..... 5	TherapeuticCookery, 2 *Laboratory*..... 4 Economics..... 5 Elective..... 5 Thesis..... 5	Eng. Literature II, 5 Psychology..... 5 Elective..... 5 Thesis..... 5	Applied Mechanics II.. 2½ Thermodynamics II... 5 Hydraulics..... 2½ *Mech. Drawing VII*.. 4 Thesis..... 5 *Eng. Laboratory III*, 2	Alternating-current Machines, 5 *Laboratory*..... 4 Hydraulics..... 2½ Power Stations..... 2½ *Dynamo Design*.... 4 Thesis..... 5	Applied Mech. II.. 5 *Specifications*.... 2½ *Estimates and Contracts*..... 2½ Thesis..... 5 *Architectural Composition III*.... 6 Roofs and trusses..

Music is optional throughout the course.

For outline of instruction, see page 45 *et seq.*

Agriculture Course.

This is an age of specialists, yet the specialist is far better equipped for his life-work if he is well grounded in the fundamental branches of knowledge. The College is better equipped than ever before, in the special lines of agriculture, horticulture, and animal husbandry, for giving the student thorough preparation and training in these lines. The sciences which are related to agriculture are not slighted, and all of the essential fundamental studies are given.

The young men who take the agriculture course will not only be well prepared successfully to carry on various lines of farming for themselves, but they will be competent to act as foremen, and, after some experience, as managers and superintendents of large farms or other agricultural interests. They will also be prepared to take positions in our agricultural colleges and experiment stations as instructors and assistants. More than this, the graduate from the agriculture course, whatever calling he may choose or wherever he may make his home, will be a strong and influential citizen as well as a skilful producer, because, while the studies of the agriculture course are primarily practical, emphasizing the business side of life, yet enough "culture" studies are offered to give the student a well-balanced and well-rounded education.

The time has passed, my young farmer friend, when an uneducated and unskilled man can become a successful farmer and a man among men. It is not so easy to make a good living at farming to-day as it was forty or even twenty years ago. The soil is poorer, competition is greater. There are many educated, hustling men engaged in the various lines of farming to-day, and if you want successfully to compete with them you must be educated, too. You must understand the soil and the great principles of cultivation, aeration, and soil-moisture conservation. You must know the science of plant growth and propagation; you must know the chemistry of the plant and of the soil. You must learn the principles of animal nutrition and balanced rations in stock-feeding. You must study the animal and be practiced in stock judging, in order to select your breeding stock. You must know a thousand things about agriculture which you do not know now, if you hope successfully to compete with those who have knowledge and training in these things.

The motto of the Agricultural College is *practice with science.* This does not mean, however, that the agriculture course student is put to work on the farm. The agriculture course is a course of study, not of manual labor. Some manual labor is required as practice work in the field and laboratory. The student is taught to handle tools in carpentry and blacksmithing; he is given some practice in handling stock, grafting, tree-planting, and general farm management. He is not sent into the fields to plow, harrow, or cultivate, but he has an opportunity to observe the best methods of farm practice and become acquainted with the great principles of agriculture which apply everywhere and upon which crop production and stock-breeding and -raising depend.

Every young farmer in the state of Kansas should take the agriculture course. It does not matter so much how long a man lives, as how much he lives, and one can live so much more and accomplish so much more after spending four years in College, that the time spent is never missed. Every young man can find means to carry him through College. "Where there is a will there is a way."

Agriculture Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	83
English Classics	5	71
Botany II	5	51
Field-work	2	51
Free-hand Drawing	2	47
Woodwork I	4	85
Drill	4	91

WINTER TERM:

Geometry II	5	83
Advanced Composition	5	71
Agriculture	5	45
Elementary Psychology	1	97
Woodwork II	3	85
Object and Geometrical Drawing	4	47
Drill	4	91

SPRING TERM:

Algebra IV	5	83
Rhetoric I	5	71
Physics	5	102
Laboratory	2	102
Blacksmithing I	4	85
Elementary Projection	2	47
Drill	4	91

Second Year.

FALL TERM:

Chemistry I	5	54
Laboratory I	2	57
Dairying	2½	60
Laboratory	6	60
Trigonometry	5	83
Surveying	2	83
Public Speaking I	2½	111
Drill	4	91

WINTER TERM:

Chemistry II	5	55
Laboratory II	2	57
Breeds of Stock	2½	60
Stock Judging	4	60
Physiology	5	112
Laboratory	2	112
Public Speaking II	2½	111
Drill	4	91

SPRING TERM:

Chemistry III	2½	55
Laboratory III	7½	57
Horticulture	5	79
Laboratory	4	79
Entomology	5	73
Laboratory	2	73
Drill	4	91

Third Year.

FALL TERM:

European History	5	77
Veterinary Science	5	112
Animal Nutrition	5	57
Bacteriology	2½	112
Laboratory	4	112
Horticulture Laboratory	2	79

WINTER TERM:

Civics	5	77
Crop Production	5	45
Grain Judging	2	45
Rhetoric II	5	71
Agricultural Chemistry Laboratory	6	58

SPRING TERM:

American History	5	77
Stock Feeding	3	60
Agricultural Chemistry	2	57
Vegetable-gardening	5	79
Farm Mechanics and Management	5	46

Fourth Year.

FALL TERM:

Physics III	5	103
Laboratory	4	103
Zoology	5	73
Laboratory	4	73
Elective	5	28

WINTER TERM:

Physics IV	5	103
Laboratory	2	103
Economics	5	67
Geology	5	74
Elective	5	28

SPRING TERM:

English Literature	5	71
Animal Breeding	5	60
Elective	5	28
Thesis	5	—

Domestic Science Course.

The aim of the domestic science course is both specific and general. Technically it is an application of the science of bacteriology to the study of home sanitation and hygiene, of physiology and chemistry to the composition of foods and their effect, of physics as applied to heating and lighting. These sciences necessarily, therefore, underlie the successful and intelligent conduct of the home, whether it be large or small, and must be included in any well-arranged course of domestic science. In the kitchen laboratory a standard system of measurement is taught, and constant emphasis is placed upon neatness, accuracy and economy in the handling of the material and utensils. The instruction in domestic art includes all the various kinds of hand sewing, the making of plain garments, and a complete system of dressmaking. Thus, while the course is based upon studies of a thoroughly scientific nature, the laboratory and industrial features characteristic of the College are made highly practical and are continued throughout the course.

While the domestic science course emphasizes, primarily, the practical and material side of life, it does not stop here. To the end that well-rounded culture may be secured, studies are offered in this course in English, history, economics, psychology, and public speaking. The young women are constantly reminded that life is not all drudgery; that technical knowledge and scientific skill, even, fail to include the full meaning of education in its highest sense. They are taught that any training that fails to develop, harmoniously, body, mind and spirit is inadequate and incomplete. They are brought face to face with ideals as well as with actualities; and are made to see that, while skilful labor is the crowning dignity of life, grace, refinement and self-poise are the highest ingredients of true service.

As the truly useful woman must be both cultured and refined, one-third of the time of this course is given to history, art, literature, and economics, and about one-third to the sciences.

The elective during the fourth year gives considerable opportunity to specialize in some chosen line.

Domestic Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	83
English Classics	5	71
Botany II	5	51
Field-work	2	51
Free-hand Drawing	2	47
Sewing I.	4	63
Physical Training	4	100

WINTER TERM:

Geometry II	5	83
Advanced Composition	5	71
Cooking	5	63
Elementary Psychology	1	97
Sewing II.	3	63
Object and Geometrical Drawing	4	47
Physical Training	4	100

SPRING TERM:

Algebra IV	5	83
Rhetoric I	5	71
Physics	5	102
Laboratory	2	102
Sewing III.	4	63
Elementary Projection	2	47
Physical Training	4	100

Second Year.

FALL TERM:

Chemistry I.	5	55
Laboratory I.	2	57
Entomology	5	73
Laboratory	2	73
German I	5	75
Public Speaking I.	2½	111
Physical Training or *Music*,	4	100

WINTER TERM:

Chemistry II.	5	55
Laboratory II.	2	57
Horticulture	5	79
Floriculture	2	79
German II	5	75
Dressmaking and Fabrics,	6	63
Physical Training or *Music*,	4	100

SPRING TERM:

Chemistry III.	2½	55
Laboratory III	7½	57
Physiology	5	112
Laboratory	2	112
Public Speaking II	2½	111
German III	5	75
Physical Training or *Music*,	4	100

Third Year.

FALL TERM:

Rhetoric II	5	71
Human Nutrition	5	57
Domestic Science I.	2	65
Laboratory.	4	65
German IV.	2½	75
Color and Design	4	48
Laundering	2	65
Music elective.		

WINTER TERM:

European History	5	77
Domestic Science II.	2	65
Laboratory.	4	65
Zoology	5	73
Laboratory.	4	73
German V.	2½	76
Music elective.		

SPRING TERM:

Civics	5	77
Home Decoration.	2½	48
Bacteriology	2½	112
Laboratory	4	112
Domestic Science III	2	65
Laboratory.	4	65
Home Nursing	2½	65
German VI.	2½	76
Music elective.		

Fourth Year.

FALL TERM:

American History	5	77
English Literature I.	5	72
Household Management	5	65
Elective	5	28

WINTER TERM:

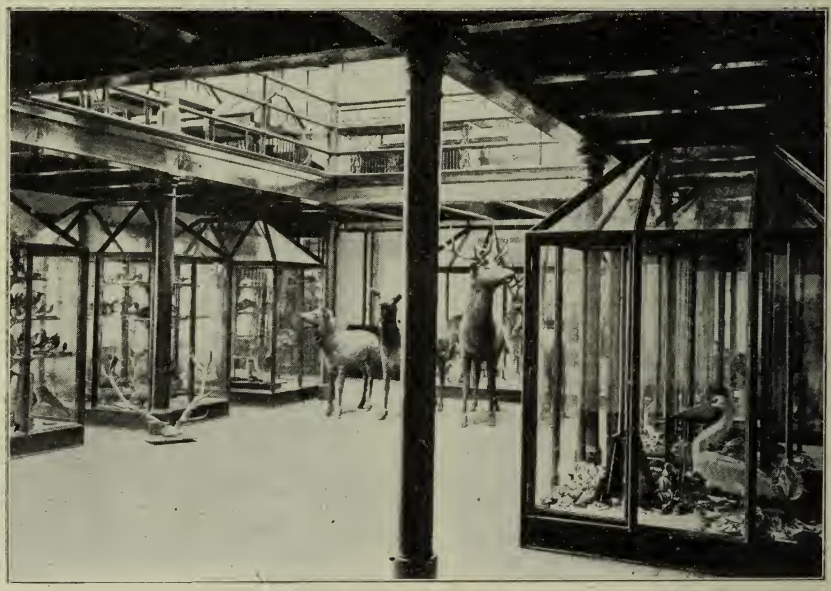
English Literature II.	5	72
Dietetics	2½	65
Laboratory.	6	65
Psychology	5	97
Elective	5	28

SPRING TERM:

Therapeutic Cookery	2	65
Laboratory.	4	65
Economics	5	67
Elective	5	28
Thesis	5	—

General Science Course.

This course is designed to meet the wants of those who seek to obtain a sound and liberal education through the study of the mathematical, physical and natural sciences, English language, and history. It is well adapted to the student who has not yet decided upon his life-work, or who wishes to make this a foundation for further study. It is based on the principle of "a general knowledge of all things before a special knowledge of a few." It will be well worth one's time to take this course before beginning the work of a technical or professional course. Laboratory and industrial work are a feature of this course, as of all others. The electives continuing through the fourth year gives opportunity for some special lines, as follows: Young men may take analytical geometry, differential and integral calculus with the engineering students, by delaying American history till the spring term, fourth year, and young women may take the three terms in domestic science with the third-year women of the domestic science course. Other electives are announced on page 28. In each case, the electives for the three terms are expected to be in the same line as nearly as possible.



CORNER OF MUSEUM.

General Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	83
English Classics	5	71
Botany II	5	51
Field-work	2	51
Free-hand Drawing	2	47
Woodwork I or *Sewing I*	4	85
Drill or *Physical Training*,	4	91

WINTER TERM:

Geometry II	5	83
Advanced Composition	5	71
Cooking or Agriculture	5	63
Elementary Psychology	1	97
Woodwork II or *Sewing II*,	3	85
Object and Geometrical Drawing	4	47
Drill or *Physical Training*,	4	91

SPRING TERM:

Algebra IV	5	83
Rhetoric I	5	71
Physics	5	102
Laboratory	2	102
Blacksmithing I or *Sewing III*	4	85
Elementary Projection	2	47
Drill or *Physical Training*,	4	91

Second Year.

FALL TERM:

Chemistry I	5	55
Laboratory I	2	57
Trigonometry	5	83
Surveying	2	83
German I	5	75
Industrial	4	—
Drill	4	91
Physical Training or *Music*	4	100

WINTER TERM:

Chemistry II	5	55
Laboratory II	2	57
Entomology	5	73
Laboratory	2	73
German II	5	75
Public Speaking I	2½	111
Projection Drawing	2	48
Drill	4	91
Physical Training or *Music*	4	100

SPRING TERM:

Chemistry III	2½	55
Laboratory III	7½	57
Physiology	5	112
Laboratory	2	112
Public Speaking II	2½	111
German III	5	75
Drill	4	91
Physical Training or *Music*	4	100

Third Year.

FALL TERM:

European History	5	77
Horticulture	5	79
Rhetoric II	5	71
German IV	2½	75
Linear Perspective	4	48
Industrial	2	—

WINTER TERM:

Civics	5	77
Bacteriology	2½	112
Laboratory	4	112
Physics III	5	103
Laboratory	4	103
German V	2½	76

SPRING TERM:

American History	5	77
Zoology	5	73
Laboratory	4	73
Physics IV	5	103
Laboratory	2	103
German VI	2½	76

Fourth Year.

FALL TERM:

Logic	5	97
Geology	5	74
Economics	5	67
Elective	5	28

WINTER TERM:

English Literature I	5	72
Plant Morphology	5	51
Laboratory	4	51
Elective	5	28
Industrial	4	—

SPRING TERM:

English Literature II	5	72
Psychology	5	97
Elective	5	28
Thesis	5	—

Mechanical Engineering Course.

This course offers four years' training in mechanical engineering subjects, and its object is to fit young men for responsible positions in that profession. It prepares for the successful management of machinery and manufacturing establishments, the designing, building and erection of machinery, superintendence of construction, etc. The course includes instruction by text-book, lecture, laboratory, and workshop practice, and is especially based on mathematics, pure and applied mechanics, physics, chemistry, machine design, structural design, and steam engineering.

The course of study has been laid out with the aim of securing a judicious mixture of theory and practice, such as will not only give the student the technical skill required for engineering operations, but also a broad grasp of the fundamental principles of his profession. The advantages of combining a practical application of principles with theoretical instruction at the time these principles are being impressed by classroom work is well known. The shop work, being purely educational in its character, is so arranged that each student can make as rapid advancement as possible. Instruction is given by skilled workmen, and the work carried on is of a practical character, being, in fact, the building of lathes, engines, drills and machinery for the market and the department. In all shop practice the students work from blue-prints, thus learning to read drawings readily and supplementing the work of the drawing department.

Based upon the fundamental principle that laboratory and shop work, combined with technical training, constitute one of the most important features of engineering education, the course on the opposite page is offered.

COLLEGE CAMPUS.

Mechanical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	83
English Classics	5	71
Botany II	5	51
Field-work	2	51
Free-hand Drawing	2	47
Woodwork I	4	85
Drill	4	91

WINTER TERM:

Geometry II	5	83
Advanced Composition	5	71
Agriculture	5	—
Elementary Psychology	1	97
Woodwork II	3	85
Object and Geometrical Drawing	4	47
Drill	4	91

SPRING TERM:

Algebra IV	5	83
Rhetoric I	5	71
Physics	5	102
Laboratory	2	113
Blacksmithing I	4	85
Elementary Projection	2	47
Drill	4	91

Second Year.

FALL TERM:

Chemistry I	5	55
Laboratory I	2	57
Trigonometry	5	83
Surveying	2	83
Shop Lectures I	1	85
German I	5	75
Projection Drawing	2	48
Blacksmithing II	2	85
Drill	4	91

WINTER TERM:

Chemistry IV	2½	55
Laboratory IV	4	57
Kinematics	5	85
German II	5	75
Descriptive Geometry	4	48
Public Speaking I	2½	111
Foundry	2	85
Drill	4	91

SPRING TERM:

Chemistry V	2½	55
Laboratory V	4	57
German III	5	75
Analytical Geometry	5	83
Public Speaking II	2½	111
Shop Lectures II	1	85
Mechanical Drawing I	2	85
Pattern-mak ng	2	86
Drill	4	91

Third Year.

FALL TERM:

Differential Calculus	5	83
Physics I	5	102
Laboratory	4	102
Mechanics	2½	86
Shop Lectures III	1	86
Mechanical Drawing II	4	86
Machine-shop I	4	86

WINTER TERM:

Integral Calculus	5	83
Physics II	5	102
Laboratory	4	103
European History	5	77
Mechanical Drawing III	4	86
Machine-shop II	2	86

SPRING TERM:

Definite Integrals	2½	83
Valve Gears	2½	—
Civics	5	77
Rhetoric II	5	71
Shop Lectures IV	1	86
Mechanical Drawing IV	4	86
Machine-shop III	4	86

Fourth Year.

FALL TERM:

American History	5	77
Economics	5	67
Steam-boilers	2½	86
Graphic Statics	2½	86
Shop Lectures V	1	86
Engineering Laboratory I	2	86
Mechanical Drawing V	4	87
Machine-shop IV	2	87

WINTER TERM:

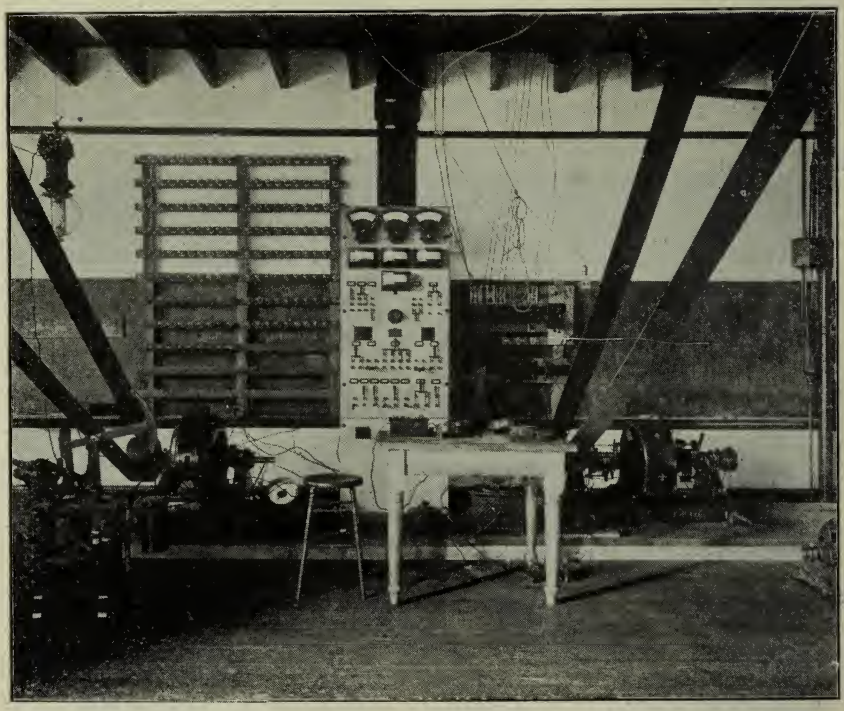
English Literature	5	71
Thermodynamics I	5	87
Applied Mechanics I	5	87
Shop Lectures VI	1	87
Engin'ring Laboratory II	4	87
Mechanical Drawing VI	2	87
Machine-shop V	2	87

SPRING TERM:

Applied Mechanics II	2½	87
Thermodynamics II	5	87
Hydraulics	2½	87
Thesis	5	88
Mechanical Drawing VII	4	87
Engin'ing Laboratory III	2	87

Electrical Engineering Course.

This course is arranged to supply the demand for men who have a practical knowledge of electricity, as well as a thorough knowledge of the principles and laws governing the forces and phenomena with which they have to deal. The applications of electricity are broadening out so rapidly by discovery and invention and by increased commercial applications, that new facts are to be met with almost daily. To meet these demands, the student should be well grounded in all the branches underlying his profession. This course is therefore made strong in mathematical and physical sciences. A well equipped electrical engineer should also be a mechanical engineer, and must have some training in the principles of steam and hydraulic engineering as well as heat, plumbing, etc. Drawing, machine design, and mechanics of machinery, together with shop practice, occupy a considerable portion of the time of the student. Some general-culture studies are offered in history and economics, public speaking, and English. It is believed that this course will give a broad general training, with sufficient technical knowledge to meet the needs of a practical engineer. For the first two years this course is identical with the mechanical engineering course.



ELECTRICAL ENGINEERING LABORATORY.

Electrical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	83
English Classics	5	71
Botany II	5	51
Field-work	2	51
Free-hand Drawing	2	47
Woodwork I	4	85
Drill	4	91

WINTER TERM:

Geometry II	5	83
Advanced Composition	5	71
Agriculture	5	45
Elementary Psychology	1	97
Woodwork II	3	85
Object and Geometrical Drawing	4	47
Drill	4	91

SPRING TERM:

Algebra IV	5	83
Rhetoric I	5	71
Physics	5	102
Laboratory	2	102
Blacksmithing I	4	85
Elementary Projection	2	47
Drill	4	91

Second Year.

FALL TERM:

Chemistry I	5	55
Laboratory I	2	57
Trigonometry	5	83
Surveying	2	83
Shop Lectures I	1	85
German I	5	75
Projection Drawing	2	48
Blacksmithing II	2	85
Drill	4	91

WINTER TERM:

Chemistry IV	2½	55
Laboratory IV	4	57
Kinematics	5	85
German II	5	75
Descriptive Geometry	4	48
Public Speaking I	2½	111
Foundry	2	85
Drill	4	91

SPRING TERM:

Chemistry V	2½	55
Laboratory V	4	57
German III	5	75
Analytical Geometry	5	83
Public Speaking II	2½	111
Shop Lectures II	1	85
Mechanical Drawing I	2	85
Pattern-making	2	86
Drill	4	91

Third Year.

FALL TERM:

Differential Calculus	5	83
Physics I	5	102
Laboratory	4	102
Mechanics	2½	86
Shop Lectures III	1	86
Machine-shop I	4	86
Mechanical Drawing II	4	86

WINTER TERM:

Integral Calculus	5	83
Physics II	5	102
Laboratory	4	103
European History	5	77
Mechanical Drawing III	4	86
Machine-shop II	2	86

SPRING TERM:

Differential Equations	2½	83
Electricity	5	104
Laboratory	6	104
Civics	5	77
Rhetoric II	5	71

Fourth Year.

FALL TERM:

American History	5	77
Economics	5	67
Direct-current Machines	5	104
Laboratory	4	104
Mechanical Drawing IV	4	86
Electrochemistry	2	105

WINTER TERM:

Direct-current Machines	2½	104
Alternating-current Machines	2½	104
Laboratory	4	104
English Literature	5	71
Applied Mechanics I	5	87
Engineering Laboratory I	4	86
Machine-shop III	3	86

SPRING TERM:

Alternating-current Machines	5	104
Laboratory	4	104
Hydraulics	2½	87
Power Stations	2½	105
Dynamo Design	4	104
Thesis	5	—

Architecture Course.

This four-year course is designed to meet the rapidly growing educational need of the building profession.

The Freshman and Sopomore years are identical with those of the mechanical and electrical enginering courses, and comprise, as will be seen in other parts of the catalogue, vigorous work in mathematics, drawing, surveying, physics, kinematics, English and German, supplemented by practice in the carpenter shop, machine-shop, and the foundry. The Junior and Senior years are given to advanced work in the lines named, supplemented by theoretical and practical work in perspective and rendering, building construction, modeling, specifications and estimates, architectural drawing, architectural composition, etc. The department of architecture and drawing is well equipped with models, casts, samples of building materials, blue-prints and lithographs of modern structures, photographs of historic buildings, etc., and is in condition to offer unusual opportunities to Western students of architectural art.

BLACKSMITH SHOP.

Architecture Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	83
English Classics	5	71
Botany II	5	51
Field-work	2	51
Free-hand Drawing	2	47
Woodwork I	4	85
Military Drill	4	91

WINTER TERM:

Geometry II	5	83
Advanced Composition	5	71
Agriculture	5	45
Elementary Psychology	1	97
Woodwork II	3	85
Object & Geomet'l Drawing,	4	47
Military Drill	4	91

SPRING TERM:

Algebra IV	5	83
Rhetoric I	5	71
Elementary Physics	5	102
Laboratory	2	102
Blacksmithing I	4	85
Elementary Projection	2	47
Military Drill	4	91

Second Year.

FALL TERM:

Chemistry I	5	55
Laboratory I	2	57
Trigonometry	2	83
Surveying	2	83
Shop Lectures I	1	—
German I	5	75
Projection Drawing	2	48
Blacksmithing II	2	85
Military Drill	4	91

WINTER TERM:

Chemistry IV	2½	55
Laboratory IV	4	57
Kinematics	5	85
German II	5	75
Descriptive Geometry	4	48
Public Speaking I	2½	111
Foundry	2	85
Military Drill	4	91

SPRING TERM:

Chemistry V	2½	55
Laboratory V	4	57
German III	5	75
Analytical Geometry	5	83
Public Speaking II	2½	111
Shop Lectures II	1	85
Mechanical Drawing I	2	85
Pattern-making	2	86
Military Drill	4	91

Third Year.

FALL TERM:

Differential Calculus	5	83
Physics I	5	102
Laboratory	4	102
Mechanics	2½	85
Art Lectures I	1	48
Linear Perspective	4	48
Architectural Drawing I	4	49

WINTER TERM:

Integral Calculus	5	83
Physics II	5	102
Laboratory	4	103
European History	5	77
Art Lectures II	1	48
Architectural Drawing II	6	49

SPRING TERM:

Definite Integrals	2½	83
Civics	5	77
Rhetoric II	5	71
Home Architecture	2½	—
Art Lectures III	1	48
Architectural Drawing III	4	49
Modeling	4	49

Fourth Year.

FALL TERM:

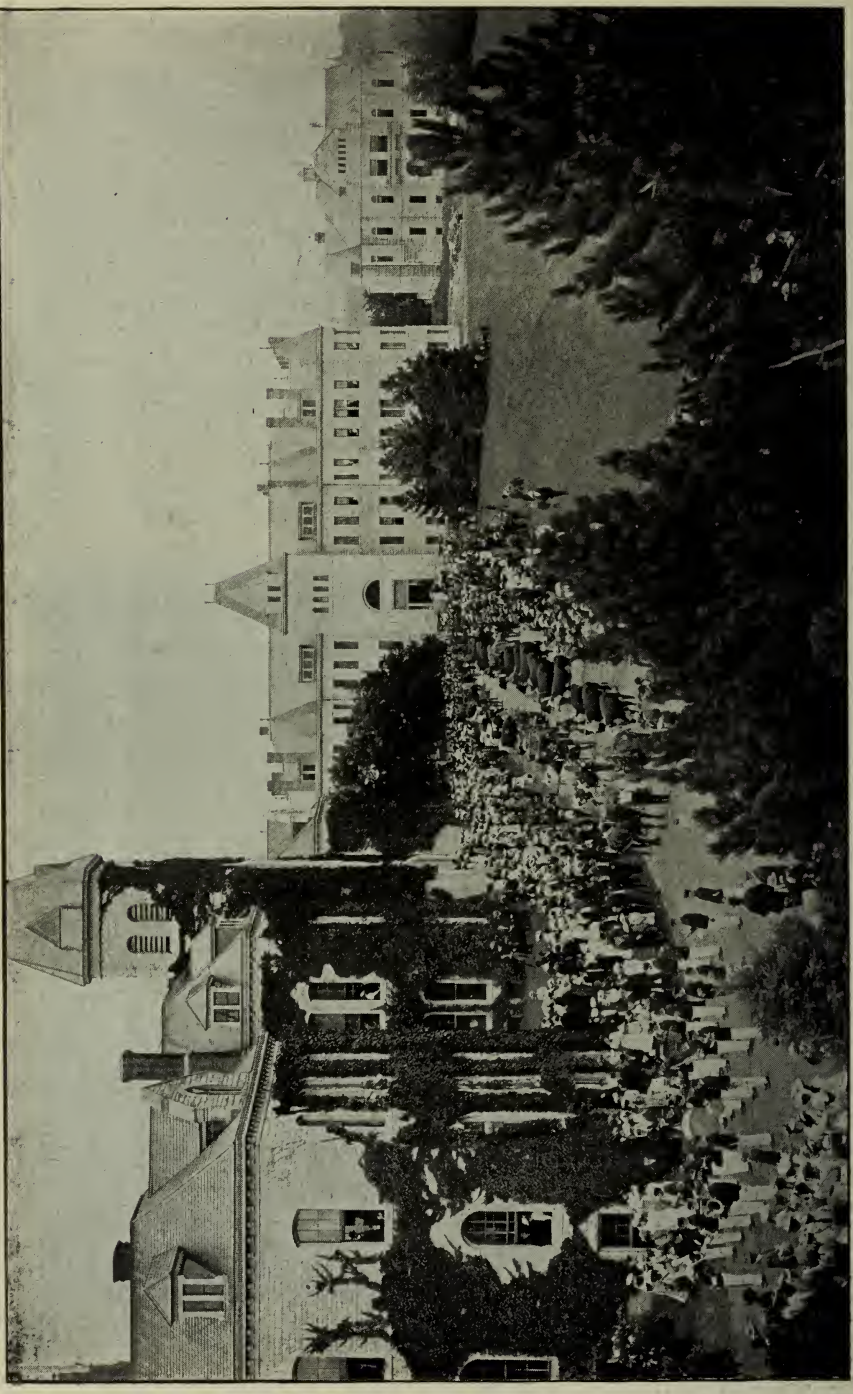
American History	5	77
Economics	5	67
Heating and Plumbing	2½	49
Graphic Statics	2½	86
Art Lectures IV	1	48
Architectural Drawing IV	4	49
Architectural Composition I,	4	49

WINTER TERM:

English Literature	5	71
Geology	5	74
Applied Mechanics I	5	87
Art Lectures V	1	48
Architectural Drawing V	4	49
Architectural Compos'n II	4	49

SPRING TERM:

Roofs and Trusses	5	49
Specifications	2½	49
Estimates and Contracts	2½	49
Thesis	5	—
Architectural Compos'n III,	6	49



STOCK PARADE.

Outline of Instruction.

Agriculture.

Agriculture, in its restricted sense, includes four general lines of study: Soils, crops, farm mechanics, and farm management. In the published course of study, farm mechanics and farm management are given one-half term each. The more advanced work in soils and farm mechanics are included in soil physics No. 5, elective, and in farm mechanics II, elective. The course requires a full term's work in crop production and grain judging, while, for those who wish to specialize in this line, advanced work in this subject is offered as an elective in the fourth year. Agriculture No. 1 takes up the elementary study of soils and crop production and serves as an introduction to the several branches of agriculture, animal husbandry, and dairying.

It is proposed to make the agricultural studies thoroughly practical. Agriculture is a business, It is not truly a science, but it depends upon science, and to understand the "principles of agriculture" requires a knowledge of many sciences. Physics, botany, chemistry, geology and mathematics teach theory and science, and the studies in agriculture will assist the student to make the application and put the theory and science into practice on the farm.

1. **Agriculture.** First year, winter term. An elementary study of the soil—its formation, texture, plant-food, moisture, tillage, and fertility; the plant—its relation to the soil and climate, its propagation, growth, and cultivation; the kinds of crops and their culture; the animal—its life, feeding, breeding, and management. Text book, Bailey's Principles of Agriculture.

2. **Crop Production.** Third year, winter term. A study of farm crops as to the preparation of the seed-bed, planting, cultivating, harvesting, root systems, maintenance of soil fertility, rotation of crops, manures and fertilizers, noxious weeds, injurious insects and diseases, and their remedies. Each of the staple crops will be taken up in order, its history, characteristics, methods of culture, uses, etc., noted. Seed selection and the storing, feeding and marketing of crops will also receive attention. Crops will be studied in classes as to their special purposes or uses, as hay, forage, silage, pasture, soiling, green manure, and cover-crops. New crops will be investigated. All the different crops are grown on the farm, so that the students may see them, or at least see samples in the classroom, and thus become familiar with their characters and methods of culture and handling. Lectures and text-book.

Grain Judging is supplementary to the classroom work in crop production. This will consist mainly of work in the judging room, in the scoring of corn and common cereals according to inspectors' and buyers' standards, or according to recognized standards of perfection. A special study will be made of corn in the selection of seed ears. It is surprising how few people can pick out a good ear of corn before they are carefully instructed and trained in the vital points, both as to desirable qualities and defects. It is just as important to select and grow a pure and perfect type of corn or wheat as it is to select a well-formed hog or perfect type of dairy animal for breeding purposes. A higher per cent. of protein, greater productiveness, and other valuable qualities, which may be bred into corn

by careful and intelligent selection, should greatly increase the value of this crop to the farmer.

3. **Farm Mechanics and Management.** Third year, spring term. Includes the study of the following subjects: Selection of a farm, as to location, soil, climate, etc.; relation of farming to other occupations; the farm equipment; different systems of farming; field and crop management; keeping farm accounts; necessity, method and kind of accounts. Practice work is required of each student, in which he shall carefully prepare records of the farm operations and business transactions for one year on his own farm or that of some successful farmer. Questions of farm economy are carefully studied, such as the care of farm buildings and works, management and care of stock, fencing, ditching, etc. Some study will be made of rural law relating to property, deeds, and conveyances; water rights, highways, legal fences, contracts, liabilities of employer and employee: notes, mortgages, bills of sale, etc. Farm management is meant not only to train men so that they may successfully apply business methods in carrying on their own farms, but to equip them for the superintending and management of large farms. This College, as well as other agricultural colleges, has many demands for men "who are properly trained in the management of large agricultural interests," and it is the aim of this course to develop men for this work. Text book, Robert's Farmers' Business Handbook.

ELECTIVES.

4. **Soil Physics.** Fourth year, fall term. A study of soil formation and mechanical composition, including a special study of the physical problems of the soil as regards texture, tillage, movements of soil water, soil-moisture conservation, aeration of the soil, draining and warming the soil. A study of the implements of tillage as to their purpose and use.

Laboratory.—Will consist largely of the demonstration and application of the principles of soil physics taught in the classroom, both by work in the laboratory and in the field. The students will be given practice work in determining soil moisture, in cultivation methods, and in mechanical analysis of soils. Textbook, King's Physics of Agriculture.

5. **Farm Mechanics II.** Fourth year, winter term. This will be a continuation of the work begun in the third year. The special subject will be farm machinery, its invention, history, and development; a study of the principles of construction and operation, with comparison of the different makes of machines of the different kinds and classes, according to their adaptation for special conditions and uses. As time permits, the work in other lines of farm mechanics will be continued, especially as related to the construction, ventilation and drainage of farm buildings, and the making and maintaining of roads. The work in the laboratory will consist largly of the demonstration and application of the principles taught in the classroom, including tests of the strength of timbers of different kinds and dimensions, the use of the dynamometer in testing the draft of wagons, etc., and the illustration of draft principles as related to the size and weight of the horse and arrangement of the harness, hitch, etc. Each student will be given some work in the taking down and putting up of farm machines, in order that he may learn their parts and construction.

6. **Crop Production II.** Fourth year, spring term. This course includes a study of the following: Standard crops, as to their origin, development, and special adaptation to soil, climate, etc.; investigations of new crops; the harvesting, thrashing, storing and marketing of crops; the products manufactured from each, and their uses; plant improvement by selection, cross-fertilization, and by

special culture and fertilization of the soil; practical methods of plant-breeding which may be undertaken by the farmer; plans for breeding fields; methods of taking and preserving breeding records; storage, maturity, and other factors, as affecting germination and vitality of seeds, etc.

A study will also be made of the organization, lines of work and the more important results of experiments by the state experiment stations and by the United States Department of Agriculture. The important principles of experimental work will be studied, and each student will be required to plan and conduct, under the direction of the instructor, some experiment along agricultural lines, and to prepare a written discussion of the subject, giving the results of the experiment. The experiment may include any line of work in charge of the agronomy department, such as studies in germination and purity of seeds, market conditions of grain, culture methods for different crops, effects of various methods of cultivation on temperature and moisture of the soil, etc. This course gives an opportunity for the student to begin some kind of original investigation which he may continue as a graduate student and allows him a choice of many lines of field-work which could not be commenced during the early part of the academic year.

Architecture and Drawing.

Drawing is the language of form and the key to every artistic and nearly every industrial pursuit. The educational and practical value of an extended and systematic course in its various branches can hardly be overestimated. The general aims of the several courses in industrial art are the same: (*a*) The cultivation of observation and analysis of form; (*b*) the development of correct taste; (*c*) the teaching of the different methods of graphic representation; (*d*) the acquirement of skill in handling drawing tools.

Of the studies described below, Nos. 1 to 4, inclusive, are required in all courses; Nos. 5 and 7, in the general science course; Nos. 5 and 6, in the engineering courses; and Nos. 8 and 9, in domestic science.

The College furnishes drawing-board, T square, triangles and water-colors for the graphic work done at the College; but all tools for home use, including drawing-board, T square, triangles, compasses, shading pen, and protractor, must be furnished by the student.

1. **Free-hand Drawing.** First year, fall term. Exercises with forms involving the right line and the arc, illustrating the effects of geometrical arrangement, repetition, alternation, symmetry, proportion, harmony, and contrast. After a few lessons in geometrical lines, the conventional surface ornament is taken up, and more subtle curvatures and complex forms are introduced. Text-book, Walters's Industrial Drawing, envelopes 2 and 7.

2. **Object Drawing.** First year, winter term. Discussion and drawing of geometrical models and simple objects. Exercises in shading from the object and from the imagination.

3. **Geometrical Drawing.** First year, winter term. Construction of perpendiculars, parallels, angles, polygons, tangents, etc. Construction of the ovoid, oval, ellipse, and spiral. Drawing, in India ink and water-colors, of various geometrical designs and architectural forms. Use of drawing-board and T square. Text-book, Walters's Industrial Drawing, envelopes 11 and 12.

4. **Elementary Projection.** First year, spring term. Principles of orthographic projection; the profile plane; the secant plane; rotation in space; change of ground line. Development of surfaces. Interpenetrations of the prism and pyramid. Projection of the circle, cylinder, and cone.

5. **Projection Drawing.** Second year, fall or winter term. Construction and projection of the conic sections. Construction of the spiral and helix. Construction of screw forms. Interpenetrations of the cone, cylinder, and sphere. Shades and shadows of simple geometric forms. Problems in monodiametric and isometric projection.

6. **Descriptive Geometry.** Second year, spring term. Discussion and solution of the usual problems relating to the point, right line, and plane. Generation and classification of lines and surfaces. Discussion and construction of tangents, normals, and asymptotes to lines and surfaces. General characteristics of warped surfaces. Graphic analysis of the hyperbolic paraboloid, the conoid, the hyperboloid of revolution, the cylindroid, the helicoid, etc.

7. **Linear Perspective.** Third year, fall term. Linear perspective is taught as central projection, and is intended to furnish the scientific answers to the questions which constantly confront the student of drawing from the object. It comprises the subjects of vanishing points, vanishing traces, measuring points, cylindric perspective, perspective corrections, shades and shadows in perspective. and studio methods. The models used in the work in sketching are objects whose forms bear close relationship to geometrical types. The students are led to recognize the facts, relations and principles involved in the apparent form of the object, to note the distribution of light, shade, shadow and reflection on the same, and deduce the general principles which the observation and comparison of these appearances are found to establish. Each student is required to make a number of original crayon and ink sketches during the term.

8. **Color and Design.** Third year, fall term. Discussion of the nature and influence of color, its use and abuse, and the principles that underlie good design and consistent, harmonious color combinations. Original designs in construction and decoration as applied to fabrics, dress and articles of common use in the home, that young women may recognize and appreciate that which is beautiful and appropriate, and may become more discriminating as purchasers.

9. **Home Decoration.** Third year, spring term. A study of design in its application to the home; its plan, furniture, and decoration. Emphasis is laid upon the refining and educating influence of well-chosen and appropriate decoration, the importance of simplicity being urged. Lectures on fine arts and the handicrafts, teaching that the home should show that fine art and industrial art are not to be considered separately.

Problems in planning and decorating houses.

The following is a brief outline of the special branches of the course in architecture:

10. **Art Lectures I.** History and characteristic forms of Egyptian, Greek and Roman architecture.

11. **Art Lectures II.** History and characteristic forms of Romanesque, Byzantine, Moorish and Gothic architecture. Influence of climate and building materials.

12. **Art Lectures III.** History and characteristic forms of renaissance and neo-Greek architecture. Development of plastic ornamentation. Rise and growth of landscape art.

13. **Art Lectures IV.** Modern architectural styles and tendencies. Influences of modern machinery, building materials, and methods of transportation. The colonial; the American-Romanesque; the American-classic.

14. **Art Lectures V.** Architectural details; foundations, roofs, cornices, modern conveniences, stairs and elevators, modern methods of decoration, etc.

15. **Architectural Drawing.** This work is closely adjusted to the subjects of the art lectures given during the same term. It consists of exercises in drawing characteristic details, ornaments, facades, plans and sections of some of the representative buildings of the art period studied. Text-book: Volume 33, International Text-book Company.

16. **Modeling.** Modeling in clay of architectural details and ornaments. Original work in plastic composition. Glue and plaster molds, work in plaster casting. Text book, Technique of Sculpture, by W. O. Partridge.

17. **Heating and Plumbing.** Systems of heating buildings; methods of ventilation; dry closets; water-supply; plumbing; sewer construction; sewage disposition.

18. **Specifications.** Discussion and composition of standard specifications for residences and simple public buildings.

19. **Estimates and Contracts.** Detail estimates of stonework, concrete, and brickwork, lumber, plastering, painting, labor, etc. Methods of making lump estimates. Study of quotations of building materials. Discussion of the principles and forms of building contracts. The status of the architect and superintendent. Bonds, mechanics' liens, building laws, etc.

20. **Architectural Composition I.** Original work. Each student is required to draw, finish, trace and blue-print a full set of plans, elevations and details of a modern frame dwelling of given cost, size, and general form.

21. **Architectural Composition II.** Original work. Each student is required to draw, trace, finish and blue-print a full set of plans, elevations and the most important details of a modern stone or brick schoolhouse. The general character of the building, its cost, limit, the floor space of its rooms, closets, and halls, and the extent of the required conveniences, are given by the instructor.

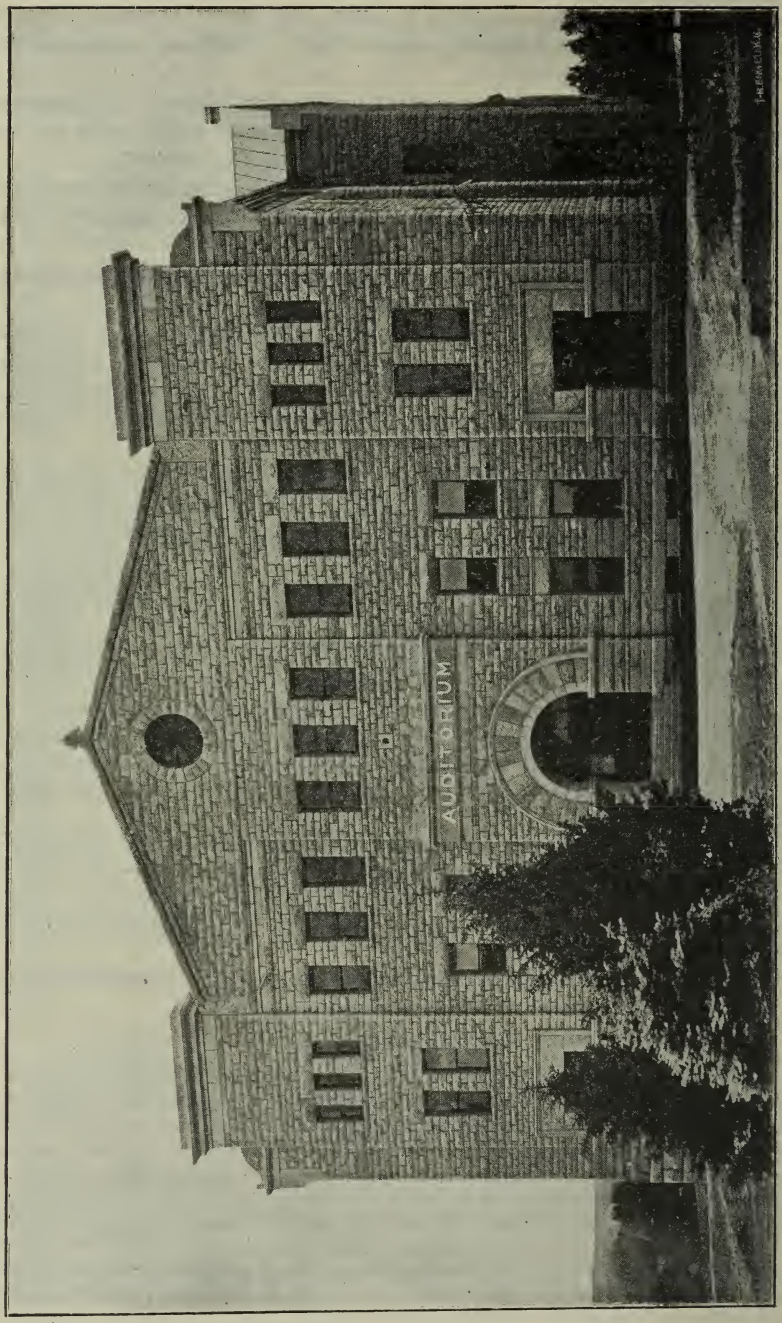
22. **Architectural Composition III.** Original work. Each student is required to draw, finish, trace and blue-print a full set of plans, elevations and details of a stone church, or public building. The general type of architecture, the character of the building material, the cost, limit of lot and floor space are given by the instructor.

23. **Roofs and Trusses.** Study of modern methods of iron and steel construction applied to columns, struts, beams, trusses and concrete reenforcements. Study of foundation, roofing and drainage problems. Text-books: Kidder's Hand-book for Architects and Builders; also, Nos. 97-A and 657-B of the International Text-book Company.

Students taking the architectural course are required to devote their summer vacations to practical work in actual building operations.

EQUIPMENT.

The College is well equipped to maintain a course in architecture. Its mechanical workshops are the most extensive west of the Missouri; its physical science laboratories are provided with an abundance of modern scientific apparatus; it owns a rapidly growing collection of several hundred plaster casts, tile and terra-cotta samples, marble specimens, etc.; it has a fine collection of models of the classic orders; a collection of blue-prints of nearly all the Kansas state buildings; a large number of modern books on architecture and engineering; a bound set of the *International* edition of the *American Architect;* a bound set of the *Inland Architect* and of several European architectural magazines, a well-equipped blue-print room, etc. The substantial stone bulding is of the institution and the complete system of water-supply, drainage, heating and lighting furnish excellent illustrative material.



AUDITORIUM.

Botany.

The instruction in the botanical department is along three lines:

First, as a Pure Science.—The department aims to give the student the training in observation and scientific reasoning, and also the information which he should have as a matter of general knowledge, regardless of his subsequent vocation. Botany is the first natural science to which the student is introduced in his College course, and for this reason it is necessary that he receive in this department his elementary training in scientific methods.

Second, as a Science Underlying Agriculture.—It is well recognized that botany is one of the most important of the sciences upon which the practice of agriculture is based, for the reason that botany deals with plant life, and plant life is at the basis of agriculture. Whenever practicable, illustrations and examples in both the elementary and advanced work are chosen with particular reference to their bearing upon agriculture.

Third, Technical Botany, including such subjects as are of direct application in agriculture. The training in the special botanical studies of the agriculture course is chiefly of this nature, as will be seen by consulting the outline below.

Of the studies described below, No. 1 is required in all courses, and No. 2 in the general science course.

1. **Elementary Botany II.** First year, fall term. This course covers the elements of morphology, physiology, and ecology. All of the great groups of plants are taken up and discussed in the order of their evolutionary development. Especial attention is given to the changes in structure which appear in response to changes in environment. Emphasis is laid upon the plasticity and adaptiveness of the plant organism. By grasping this fundamental conception at the outset, the facts of plant life, particularly studied in horticulture and agriculture, become more comprehensible and significant. A general study of the classification of the plant kingdom, sufficient to enable the student to understand the broad outlines and the relationships of the great alliances is secured in this course, and, by coming into close contact with plants as living organisms in their natural habitats, he becomes acquainted with the factors that regulate their life and activity. Coulter's Plant Studies is the text used.

Field-work.—Certain definite problems in plant ecology are assigned to different groups of students, and a report of observations made, together with drawings of twenty-five representative plants in the localities studied, is required. The materials called for are: A drawing tablet, a key to the local flora, published by the department, and a simple lens.

2. **Plant Morphology.** Fourth year, winter term. In this course the forms and structural relations of representatives of all the great groups of plants are studied in detail in the laboratory. The purpose is to give the student a comparative insight into the morphological characters of the more important groups of the plant kingdom, and a conception of their genetic relationships and their development and position in the evolutionary series. Coulter's Plant Structures is the text followed, supplemented by lectures.

Laboratory.—Laboratory work occupies four hours per week throughout the term. Accuracy of observation is tested by exact studies of representatives of all the great groups of plants, both with the unaided eye and by means of the

microscope. Detail drawings, according to furnished outlines, are required. Drawing materials are provided by the student. All necessary reagents and instruments are supplied by the department.

ELECTIVES.

3. **Plant-breeding.** Fourth year, spring term. This course is devoted to the study of the evolution and breeding of plants. The laws of heredity and variation are studied in detail, with especial reference to their application to the improvement of economic plants, and a critical study is made of the principles underlying seed and plant selection and hybridization. The history of the evolution and development of economic plants is taken up in considerable detail, and a critical examination is made of the methods followed and results obtained by investigators in plant breeding here and abroad. The extended series of experiments now being conducted by the Experiment Station will be used for illustrative purposes. The course is given by lectures, supplemented by laboratory work, and a seminar in plant-breeding, held once a week.

Laboratory.—Laboratory work will involve experiments in seed and plant selection, hybridization, the statistical study of variation, etc.

4. **Plant Diseases.** Fourth year, fall term. The term is devoted to the study of causes of diseases in economic plants. The study is familiarized by the lectures with the great groups of the parasitic fungi and their chief subsidiary groups. The general morphology of these is discussed successively, and the morphology and physiology of the particular representative of each selected for laboratory study is given in detail, together with combative and preventive measures. A rich herbarium of types and a constantly growing set of duplicates furnish abundant material for the work, and are supplemented by alcoholic specimens properly killed and fixed, and by prepared slides. Ample literature on the subject of plant diseases is afforded by the library of the department and of the Experiment Station. H. Marshall Ward's Diseases in Plants is used as a text. Prerequisites are courses 1 and 2, or their equivalents.

Laboratory.—In the laboratory work pathological specimens are examined, and the changes induced in plants by fungi and by abnormal physical conditions are studied in detail under the microscope. The object of this course is rather to study the working of diseases from the standpoint of the host than to become acquainted with the groups of parasitic fungi, although a sufficient study of the morphology of these for practical purposes is made in the laboratory.

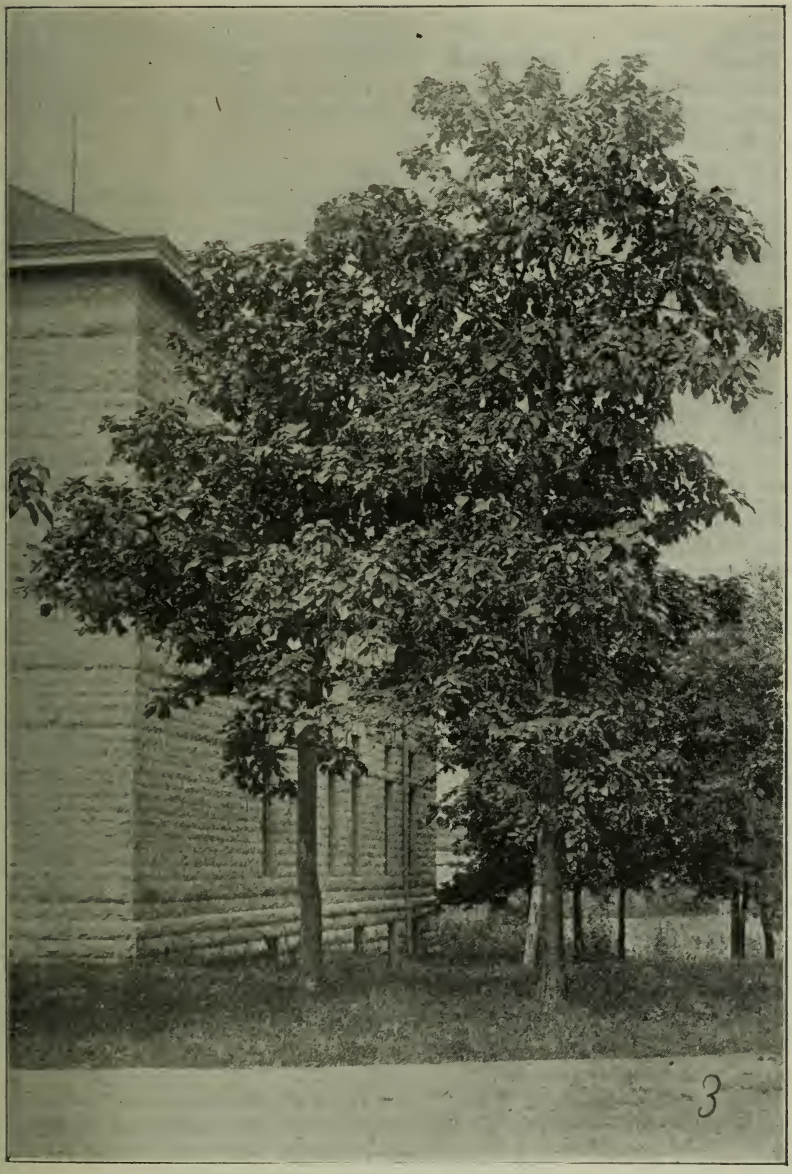
GRADUATE COURSES.

5. **General Morphology of Thallophytes.** Winter term. Lectures and laboratory work. This course involves a detailed study of the morphological characters of the algæ, fungi, and lichens.

6. **General Morphology of Bryophytes and Pteridophytes.** Spring term. Lectures and laboratory work. The work begun in course 4 is here continued in the higher groups of liverworts, mosses, and ferns. Especial attention is given to evolutionary lines of development in these groups.

7. **General Morphology of Spermatophytes.** Spring term. Lectures and laboratory work. The work of this course will be given in alternate years with course 5, and covers the morphology of the gymnosperms, monocotyledons, and dicotyledons, representatives of each of the chief groups of these great alliances being studied in considerable detail.

8. **Morphology and Physiology of Economic Grasses.** Spring term. Lectures and laboratory work. This course contemplates a detailed study of the



CATALPA ON CAMPUS.

cereals and other economic grasses; their history, distribution, structure, and habits.

9. **Ecology.** Fall term. This course involves the study of the reactions of plants to their environment in their associative relations as plant societies. Problems of ecological and geographical distribution will be considered, and as far as possible the work will be made individual, each student being directed into some special ecological question as early as possible. Lectures and conferences will furnish general guidance, and special reading will be assigned. The work proper will be strictly in the field.

10. **Plant Histology.** Spring term. This is a course in laboratory methods, involving a study of the processes of killing, fixing and preserving plant tissue; dehydrating, embedding in paraffin and celloidin; microtome sectioning; staining and mounting of slides. A varied series of preparations will be worked upon, with a view to the acquisition of facility in technique and in the preparation of material for research.

MEANS OF ILLUSTRATION.

A general herbarium, consisting of a large collection of plants of the United States and other countries; a Kansas herbarium, containing specimens illustrating the distribution and variation of plants throughout the state; a twig herbarium, illustrating woody plants in their winter condition; and a seed herbarium, containing a representative collection of seeds and fruits, amounting, all together. to about 70,000 specimens; also thirty-eight compound microscopes, seven dissecting microscopes, tools, reagents, etc. The department is provided with a zinc culture room, and the ordinary apparatus for bacteriology, and with Minot and Schanze microtomes, paraffin embedding ovens, and a complete equipment of glassware and stains for histological and cytological work.

Chemistry.

All of the industries are becoming more and more dependent for their highest success upon intelligent application of the sciences, and the special sciences are making their greatest progress by tracing their phenomena back to the physical and chemical changes that accompany them. A study of chemistry and physics is therefore essential to any understanding of the processes of nature or human industry. In the instruction in chemistry the aim is to insist upon a mastery of the chief concepts of the pure science through the agency of text-book drill, accompanied by demonstrations in the lecture-room, and experimental observations by the student himself in the laboratory. As the course proceeds, illustrations of chemical principles are drawn from the industrial processes of the chemical, agricultural, domestic and other arts, thus impressing the practical nature of the study. The ultimate object of the instruction is to develop in the student the power to form independent judgments upon the manifold problems of daily life in which chemistry plays a part.

Of the studies described below, Nos. 1 and 9 are required in all courses. In addition, the engineering courses require Nos. 4, 5, 12, and 13, and the agriculture, domestic science and general science courses Nos. 2, 3, 10, and 11. The domestic science course also requires No. 6, and the agriculture course Nos. 7, 8, and 14.

1. **Chemistry I.** Second year, fall term. This term's work is designed to give the student a knowledge of the fundamental principles of the science as illustrated by the chemistry of the non-metals and that of some of the metals.

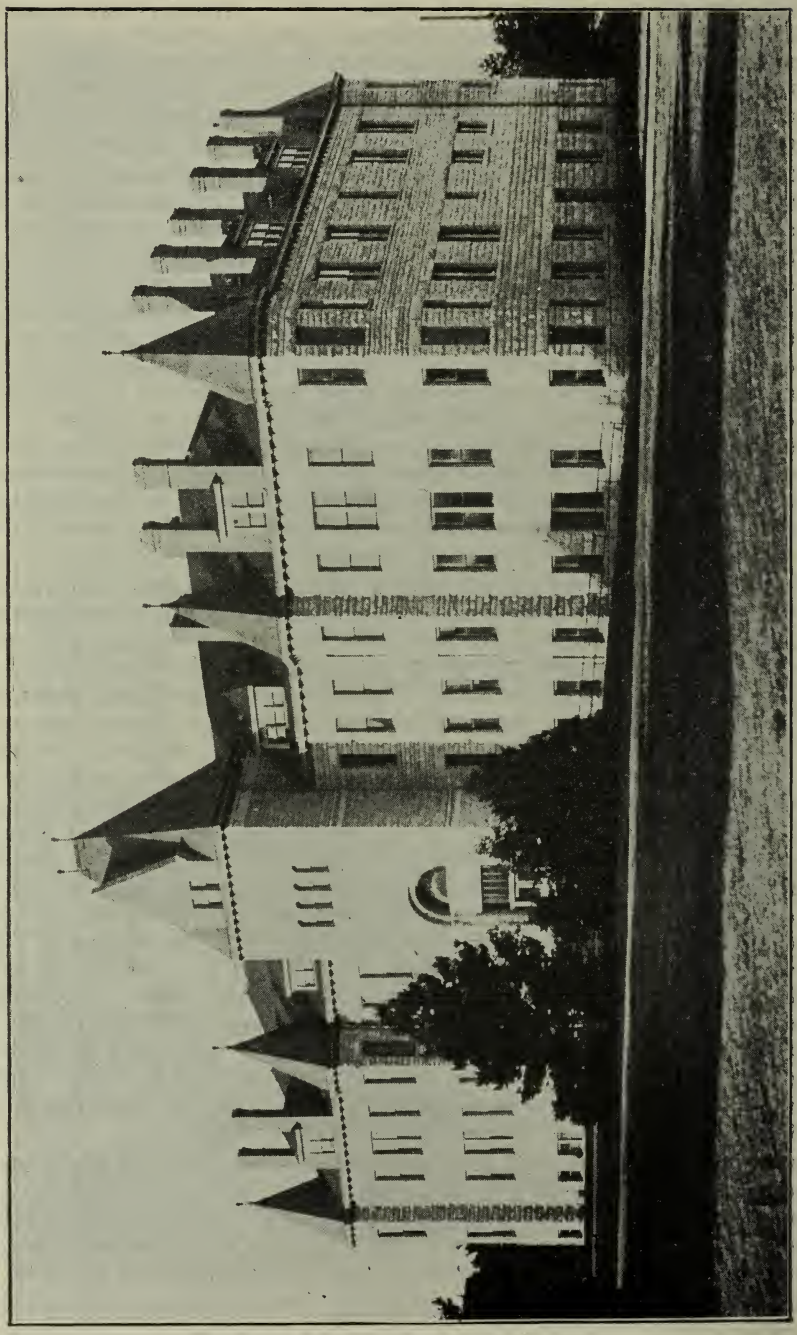
As all subsequent progress in this science requires a working knowledge of its principal theoretical conceptions and of the rules for naming compounds, the significance of formulæ, chemical equations, etc., much attention is given to these as well as to the practical uses of the substances and processes in metallurgy, engineering, agriculture, and other arts. The text-book, Newell's Descriptive Chemistry, is supplemented by lectures when necessary, and the subject is amply illustrated by experimental demonstrations. Elementary physics is a prerequisite.

2. **Chemistry II.** Second year, winter term. A systematic study is made of the simpler examples of the more important classes of organic compounds in their logical chemical relations. Such substances as touch the every-day affairs of life are treated with greater detail. Opportunity is thus afforded to consider the hydrocarbons, alcohols, organic acids, fats, soap, sugars, starch, proteids, and other less known substances. Compounds used for clothing, food, fuel, light, antiseptics, disinfectants, anesthetics, poisons, medicines, solvents, etc., are included. While the useful organic compounds have special attention given them, the study of others is not excluded when they contribute to an understanding of the systematic relations existing among the several classes. Any serious study of the biological sciences, or of the arts connected with them, must require this as a foundation. The subject is amply illustrated by experiments in the lecture-room. Text book, Remsen's Organic Chemistry, in part, accompanied by lectures amplifying the treatment of constituents of foods. Course 1 is a prerequisite.

3. **Chemistry III.** Second year, spring term. In this and the accompanying laboratory work, the prime object is to increase the student's knowledge of chemistry as a whole. The science is so difficult that with most students the one term of inorganic chemistry does not do more than introduce them to it. In chemistry III the standard methods of analytical chemistry are made the basis of a systematic study of the chemical properties of the most important metals, non-metals, acids, bases, and salts. The teaching of analysis as such is a secondary object, although the student is held to the exact observations and careful reasoning required in ascertaining the composition of single substances and mixtures. The lessons, which are outlined in a special pamphlet, include a review of the more important topics of inorganic chemistry, in which natural occurrence of elements and compounds, industrial chemical processes and analytical reactions are seen to be closely connected. The pamphlet also includes simple treatment of some general chemical laws, in accordance with modern views. The exercises are so arranged as to pass from the simple to the more difficult, and at the same time facilitate the comparative study of the several cations and anions. The theories of chemistry receive constant application, and the effect of the course is to broaden, strengthen and unify the student's ideas of general chemistry, greatly to enlarge his knowledge of chemical facts, and at the same time fix many of them by their association with the reactions made use of in analytical chemistry. Must be preceded by courses 1, 9, and 10.

4. **Chemistry IV.** Second year, winter term. In this course engineering students give special attention to the metals used in construction and other engineering operations, and to compounds of metals of engineering significance. This course completes Newell's Descriptive Chemistry and includes a series of lectures on alloys, materials of construction, etc. Must be preceded by course 1.

5. **Chemistry V.** Second year, spring term. The work given in this course is similar to that of chemistry III, but adapted, as far as may be, to the needs of engineering students. Must be preceded by courses 4 and 12, and accompany 13.



PHYSICAL SCIENCE HALL.

6. **Human Nutrition.** Third year, fall term. This is a course of lectures on the chemistry of foods and nutrition, and includes the following topics, with others: Composition of the animal body; composition of foods and methods of investigation employed in their study; the changes that the several classes of foods undergo in cooking and digestion, and the functions that they perform in nutrition; daily food requirements, and the balancing of dietaries; food economy. Course 2 and physiology must precede this course.

7. **Animal Nutrition.** Third year, fall term. This course is designed to provide a thorough scientific basis for the study of practical stock-feeding It is a study of the relation of the animal body to matter and energy, and includes consideration of the methods of investigation employed, and of the following topics, with others: The chemical characteristics of the more important feeding stuffs and causes of their variation in composition; the chemical changes that feeds undergo in digestion; the tissues that can be built up by the several proximate principles of feeds, and the bodily functions that they can sustain; hence, the requirements of the animal as modified by the purpose for which it is fed; the channels through which the energy of feed is lost or is utiliized. Lectures and parts I and II of Henry's "Feeds and Feeding." Course 2 and physiology must precede this.

8. **Agricultural Chemistry.** Third year, spring term. Among the subjects treated are: The soil-making rocks and minerals, and the agencies by which soils are formed from them and other materials; the soil requirements of different crops; the sources of soil fertility, and means of conserving it; the general relations of plants to earth, air, and water. Text-book, Snyder's Soils and Fertilizers. This is supplemented by lectures. Courses 3 and 4 must precede this.

9. **Chemical Laboratory I.** Second year, fall term. This course accompanies chemistry I. As far as time permits, the student performs, independently, experiments touching the preparation and properties of the more important inorganic substances. Preference is given to those operations which illustrate important principles, and the student is required as far as possible to study experiments in that light. In this, as in all other laboratory work in chemistry, the objects are, to illustrate chemical phenomena, and to teach care in manipulation, attentive observation, logical deduction, and discrimination and accuracy in recording results and conclusions. The student is not only required to give the designated amount of time, but at least a minimum amount of work must be satisfactorily performed in order to obtain credit.

10. **Chemical Laboratory II.** Second year, winter term. This includes blowpipe analysis of the more prominent species of minerals, especially those of common occurrence and economic importance in agriculture and engineering. Must be preceded by 9.

11. **Chemical Laboratory III.** Second year, spring term. This accompanies chemistry III. The regular methods of qualitative analysis serve as a basis for a laboratory study of the chemical properties of substances. At first simple known salts are given the student; later, unknown substances, simple and complex, soluble and insoluble. Course 10 is a prerequisite.

12 and 13. **Chemical Laboratory IV and V.** Second year, winter and spring terms. These courses for engineering students are similar to chemical laboratory II and III in general scope, but work in analysis of flue gases and determination of the calorific value of fuels is included also. The exercises throughout are adapted to the special needs of the student for whom they are designed. Course 9 must precede these.

14. **Agricultural Chemistry Laboratory.** Third year, winter term. Six hours per week are given to laboratory work, which consists of simple quantitative exercises, as far as possible upon substances of direct agricultural interest. These are so planned as to give as great variety of training as possible in the limited time available. Prerequisite, course 11.

MORE ADVANCED COURSES.

Advanced work in chemistry is offered in graduate courses and as electives in the general science course. Classes requiring lectures and recitations will not be organized for less than three students.

15. **Inorganic Chemistry.** Fall and winter terms. This course is a thorough study of one of the larger text-books, such as Richter's or Newth's, accompanied by a special course of laboratory work.

16. **Organic Chemistry.** Spring term. This course includes laboratory work, and the study of a text-book adapted to the advancement of the students. When sufficient demand exists it will be extended to two terms.

17. **Chemistry of Foods.** This course is designated for graduate students taking domestic science, and extends through a year. It consists of study of the literature treating of food and nutrition from a chemical standpoint, accompanied by laboratory work in the separation and study of the constituents of foods, drinks, and condiments. This course may be extended to almost any extent, and leads naturally to the quantitative analysis of foods.

18. **Quantitative Analysis.** This may be taken at any time after completing course 3. After the necessary preliminary training, the student may give special attention to any line of quantitative analysis, such as that of foods and fodders, soils and fertililzers, ores, water, gases, etc. The investigation of special chemical questions is encouraged.

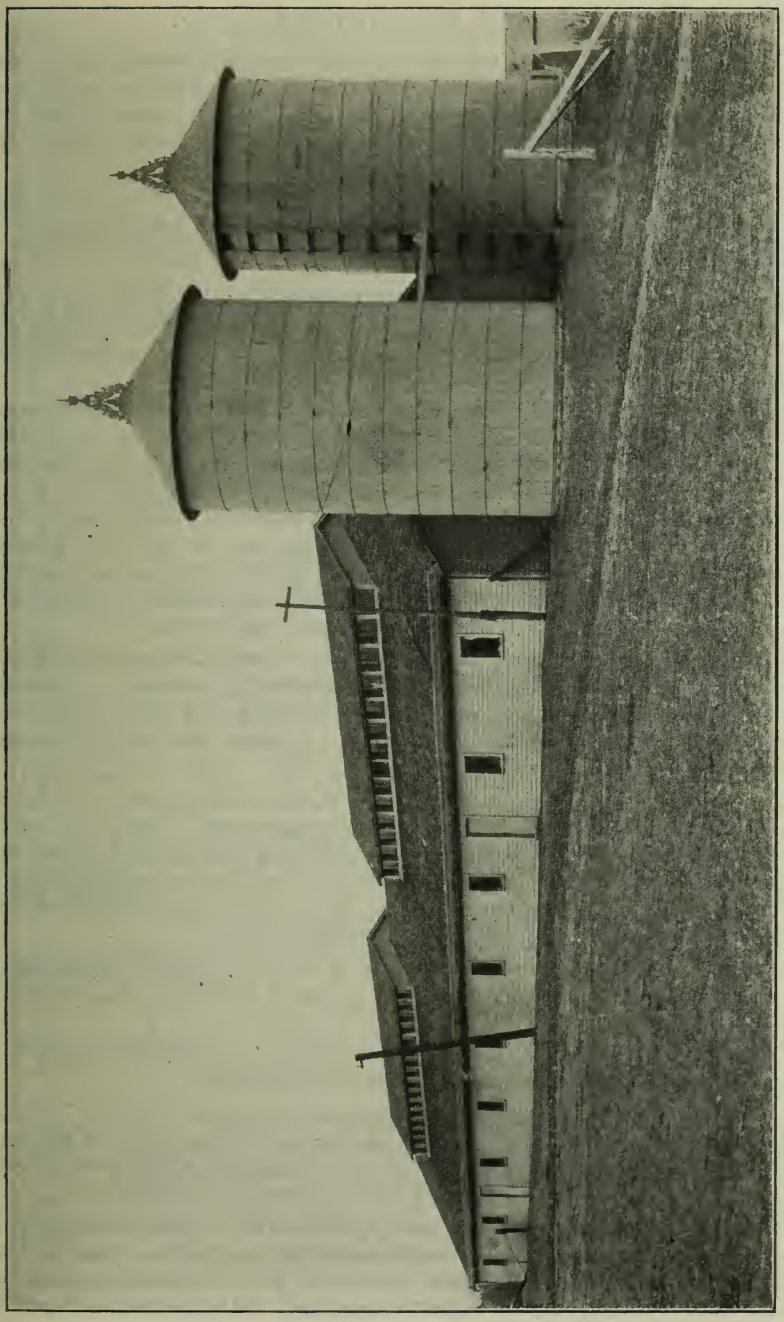
19. **Historical and Theoretical Chemistry.** This course may be arranged for by students who have completed courses 15 and 16.

20. **Mineralogy.** Crystallography, the study of minerals and blowpipe analysis may be taken concurrently or separately.

21. **Journal Meeting.** Once a week throughout the year, the officers of the department, with the more advanced students and such others as wish to, meet for papers and discussions upon topics representing the progress of chemical science, chiefly as found in the current journals. The preparation of subjects for presentation at these meetings is a part of the required work of graduate students and of those electing courses 15 and 16.

MEANS OF ILLUSTRATION.

The lecture-rooms are provided with excellent facilities for demonstrations, and the laboratories have the necessary items of equipment, to which additions are constantly being made. The laboratories for the first year's work in chemistry will accommodate 138 students at one time, and the desks are so constructed that they may be used by an equal number working at another time. The laboratory for more advanced work provides places for forty-eight students. All of the laboratories are well supplied with draft hoods. Each student's place is provided with gas and water, and distilled water is piped to all of the laboratories. The collections include representative specimens of the most important ores and minerals, a set of natural crystals, a set of large crystal models, a collection of the minerals of the noted Stassfurth deposit, and chemical preparations illustrating subjects taught.



DAIRY BARN AND SILOS.

Dairy and Animal Husbandry.

In the dairy department instruction is given in the manufacture of dairy products, and everything connected with the management of a commercial creamery, cheese factory, sanitary milk plant, etc., in such a manner that the student can intelligently handle any problem that is likely to confront him in his work afterwards.

The instruction in animal husbandry is planned with a view of awakening and encouraging an intelligent interest in live stock, so that a student, when he sees an animal, will at once compare it with an ideal that he carries in his mind and note wherein it falls short.

The values of the different feeds and combinations of feeds are taught, so that the student will be able not only to combine feed stuffs to get the required nutrients, but to combine them in the most economical manner to produce desired quantity and quality of product.

The principles of breeding as related to the raising of farm animals are studied, so to enable the student to know how our improved breeds of live stock have been developed, and how animals of superior merit may not only be perpetuated but improved. This work includes practice in tracing out pedigrees.

The aim is to give the student such knowledge and skill as will enable him to return to the farm and select, feed and breed the best live stock it is possible for him to obtain, or if he has no farm of his own, opportunities are open for young men, after getting some experience, to work into positions as farm managers. Nos. 1, 2, 3 and 4 are required in the agriculture course.

1. **Dairying.** Second year, fall term. Milk—its secretion, nature, and composition; testing milk, cream, skim-milk, buttermilk, and whey; conditions influencing the quantity and quality of milk; handling of milk for butter and cheese; study of the various hand separators; the proper handling of cream and elementary butter-making.

Laboratory.—Practice in testing milk and its various products; detection of adulteration; tests for distinguishing oleomargarine and butter; testing accuracy of glassware; study of the various hand and power Babcock testers and cream separators. Practice in separating milk, pasteurizing, ripening and churning cream; different methods of testing the acidity of milk; rennet test; setting milk; curd cutting; salting, pressing and curing of cheese.

2. **Breeds of Stock.** Second year, winter term. A study of the characteristics of the various market and pure-bred classes of live stock; also the standard of excellence of the various breeds.

Stock Judging.—Practice in judging chickens, beef cattle, dairy cattle, hogs, horses and sheep according to the official standards.

3. **Stock-feeding.** Third year, spring term. Properties of feed stuffs; adaptation and combination of feeds to meet the needs of various classes of stock under varying conditions; practical economy in preparing rations for growth, milk, fattening, and maintenance; effects of feed on quality of product.

4. **Animal Breeding.** Fourth year, spring term. A study of the laws of heredity, atavism, variation and principles relating to fecundity, cross-breeding, in-and-in breeding, etc. In addition, the various principles relating to the promotion of the breeding of pure-bred stock are made the subject of study and investigation.

ELECTIVES IN DAIRYING.

5. *Preparation and Marketing of Milk* embraces pasteurization, clarification, standardization; the general care, handling and marketing of milk; arrangements and appliances necessary to furnish to the consumer milk that has been prepared under the greatest sanitary conditions.

6. *Special Dairy Products* is a study of the various ways in which milk and its products are utilized in special purposes, such as the manufacture of ice-cream, condensed and modified milk, and the preparation of milk-sugar and casein, which are used as a basis of many of the commercial products.

7. *Advanced Butter-making* includes the receiving and separation of milk, turning of hand separators, cream preparation, perpetuation of starters, pasteurization and ripening of cream, and the determination and effect of the different per cents. of acidity in cream; churning, working, packing, marketing and scoring of butter.

8. *Dairy Management and Bookkeeping* embraces the construction of dairy building, the state of refrigeration and conditions to obtain the greatest possible degree of economy in dairy operation; practice in bookkeeping that will enable the student to understand the underlying principles, followed by a training in the keeping of dairy accounts.

9. *Cheese-making* consists in the manufacture of cheddar, cottage and cream cheese.

ELECTIVES IN ANIMAL HUSBANDRY.

10. *Origin of Breeds* is the study of the origin and development of all the various breeds and classes of domestic animals.

11. *Advanced Live-stock Judging* covers judging of horses, cattle, sheep, poultry, in groups similar to those at county and state fairs.

12. *Live-stock Management* includes the housing, care, management and marketing of the various classes of live stock.

13. *Animal Products* is the study of the methods of slaughtering animals, the cutting and curing of meats, and the utilization of animal waste products.

14. *The Study of the Pedigree* embraces the writing, recording and tracing of pedigrees of all breeds, and studying the rules and requirements of the various record associations.

15. *Advanced Feeding* is a review of all the recent experiments, a study of the introduction of new cereals and by-products for feeding purposes and of foreign methods of feeding.

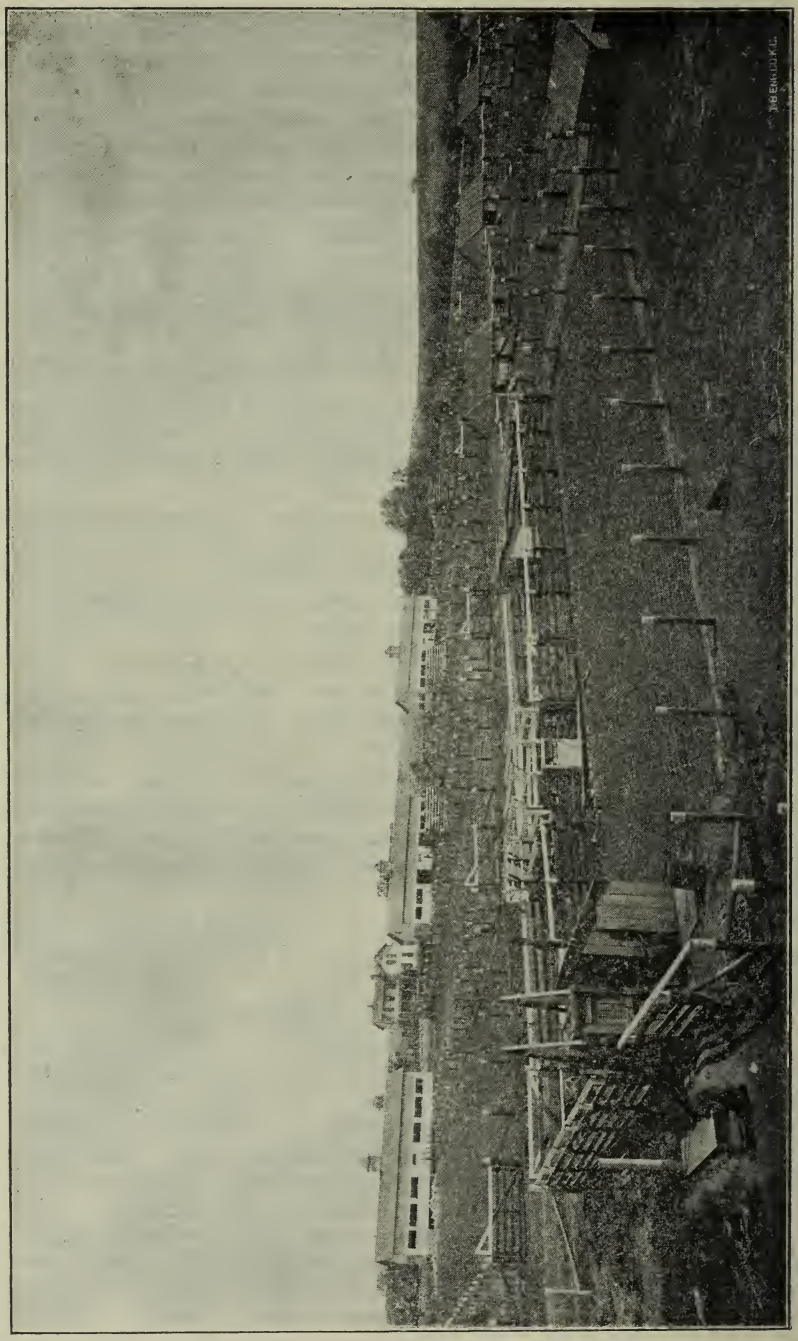
THE MEANS OF ILLUSTRATION.

The College herds have been selected with great care, and among them are found representatives of most of the leading breeds and classes of domestic animals.

Ten breeds of cattle are represented in the College herd: Aberdeen-Angus, Galloways, Herefords, and Shorthorns, representing the beef breeds; Ayrshires, Guernseys, Jerseys, and Holstein-Friesians, representing the dairy breeds; Polled Durham and the Red Polled, representing the dual-purpose breeds.

The College owns four pure-bred Percheron horses and several high grades, and, in addition, secures some of the best draft and driving horses in the state for judging purposes.

Five breeds of swine are represented, Poland-China, Berkshire, Duroc Jersey, Tamworth, and Yorkshire. Each breed is represented by a goodly number of fine animals.



EXPERIMENTAL FEEDING YARDS.

A number of breeds of sheep have been added to the live-stock equipment.

A few individuals of the leading breeds of poultry are owned by the College, and the fanciers of the state loan additional birds, if needed, for demonstration purposes.

The judging-room is 48 x 96 feet, is located in the large stone barn, at the north end of the College campus, and has a seating capacity of 350.

Domestic Art.

This department provides a systematic course in plain sewing and dressmaking. The course of work in plain sewing is carefully graded, not only to insure a thorough knowledge of the subject, but to develop habits of order, accuracy, and self-reliance. Each pupil is required to keep a note-book, in which she records a description of the work accomplished. A written examination is held at the close of each term.

Of the studies described below, all young women are required to take Nos. 1, 2, and 3, and those in the domestic science course must take No. 4. Materials for No. 1 are furnished by the College, the pupil furnishing her own thread, thimbles, needles, etc. In Nos. 2, 3 and 4 the pupil furnishes her own materials and makes the garments.

1. **Sewing I.** First year, fall term. The pupil makes a book of models covering the full course in hand sewing, consisting of basting, hemming, overhanding, gathering, darning, patching, etc. Lectures are given upon the use of each model.

2. **Sewing II.** First year, winter term. Care and use of sewing-machine. Machine practice. Discussion of appropriate materials and trimming for undergarments. Drafting, cutting and making underskirt and drawers.

3. **Sewing III.** First year, spring term. Drafting, fitting and making dress without lining.

4. **Dressmaking and Fabrics.** Second year, winter term. Nos. 1, 2 and 3 are a prerequisite for this course. The use of a dress-cutting system is taught, and each pupil will be required to draft, cut and make a woolen dress. Discussion of appropriate and hygienic dress. In connection with the dressmaking, the student will be given thorough instruction in fabrics and their manufacture.

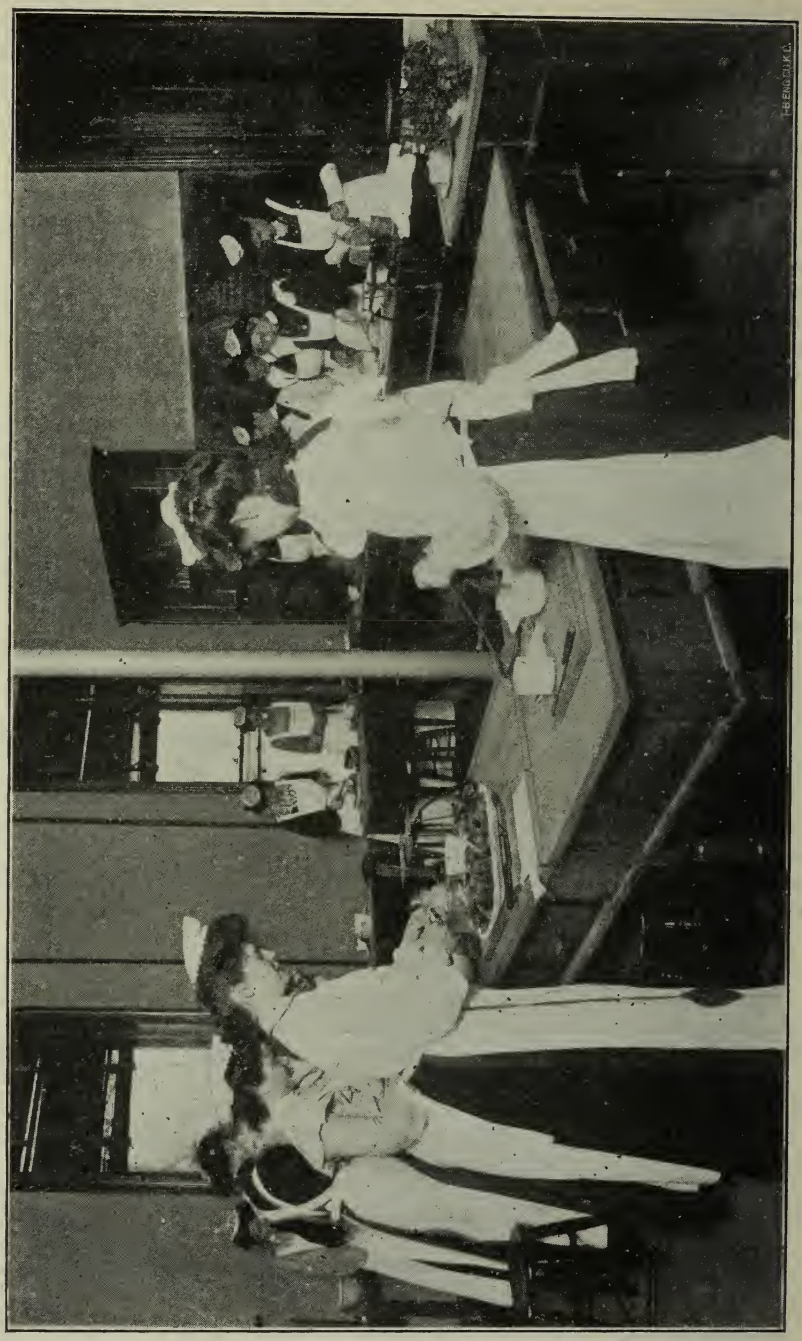
Domestic Science.

The object of the course in domestic science is to fit young women as home-makers and as capable women in whatever sphere their life-work may be. Such, then, as tends to cultivate correct observation, accurate reasoning, generous judgment and an appreciation for the beautiful in nature and art may rightfully find a place in such a course.

That which most especially pertains to woman's province, the home, is dependent upon the sciences of chemistry, physiology, bacteriology, and hygiene, and direct applications of the principles of these sciences are made in the lessons in cookery, dietetics, home nursing, and household management.

Elementary cooking is required of all young women; the remaining courses are required of domestic science students, and may be elected by general science students.

1. **Elementary Cookery.** First year, winter term. The economic use of fuels; the proper management of stoves and ranges; the care of utensils; the cookery of vegetables, cereals, fruits, milk, eggs, and meat, together with a few lessons in bread baking and cake and pastry making are taught.



CLASS IN COOKING.

2. **Laundering.** Third year, fall term. The scientific principles involved in laundering are taught, including the use of soaps, washing fluids, and starch, and the removal of stains.

3. **Home Nursing.** Third year, spring term. The course covers the furnishing and care of sick room, the giving of baths, administration of medicines, record of symptoms, first aid to the injured, and the intelligent use of antiseptics and disinfectants. Bacteriology is a prerequisite. Week-Shaw Text-book of Nursing.

4. **Domestic Science I.** Third year, fall term. The first half-term is given to food preservation—cold storage, sterilization, drying, and use of various chemicals. During the last half-term the study of foods in general is taken up, special stress being laid on the carbohydrates. Text-book, Miss Hill's Practical Cooking and Serving.

Laboratory.—Practice in canning, pickling and preparation of fruit juices first half-term. Last half, work is given in the preparation of vegetables, cereals, and dishes in which starch or sugar largely predominates. Must be preceded by courses 1, 2, and 3 in chemistry, and preceded or accompanied by human nutrition.

5. **Domestic Science II.** Third year, winter term. This is a continuation of course 4, and the time is devoted to the sources, composition, properties and comparative cost of nitrogenous foods. Text book, same as in course 4.

Laboratory.—Practice is given in the cookery of milk, cheese, eggs, meats, and legumes, separately and in combinations. Extended work is given with meats and breads. Practice in preparation and serving of dinners is given.

6. **Domestic Science III.** Third year, spring term. Fats and oils are studied and the economical purchase of food supplies discussed. Text-book same as in course 4.

Laboratory.—Practice work is given in pastry- and salad-making, and in the preparation of frozen dishes. The making of menus, with purchase and preparation of materials for breakfasts, luncheons, and dinners, occupies considerable of the time.

7. **Household Management.** Fourth year, fall term. Sanitary construction and care of the house; sanitary, economical and artistic household furnishings; judicious expenditure of incomes; and the keeping of household accounts, are the topics treated. Lectures given and reference work required.

8. **Dietetics.** Fourth year, winter term. The balanced dietary, nutritive and dietetic values of various foods, and the agreeable and hygienic combinations are taught. Text-books: Hutchison's Foods and Dietetics; Hill's Practical Cooking and Serving.

Laboratory.—The more complicated dishes are prepared and course breakfasts, luncheons, dinners and teas are served. Excursions are made to the mills and markets.

9. **Therapeutic Cookery.** Fourth year, spring term. Abnormal conditions of digestion, assimilation, and metabolism; alterations of secretions and destruction of tissue due to germ diseases are studied, together with the diets adapted to the conditions and needs of the system. Special attention is given to the feeding of infants and small children.

Laboratory.—The practice work consists of the preparation of many and easily digested foods suitable for the sick and the arrangement of trays for invalids. Some demonstration lectures are given by the class. Text-books Hutchison's Foods and Dietetics; Farmer's Food and Cooking for the Sick an Convalescent.

DINING ROOM.

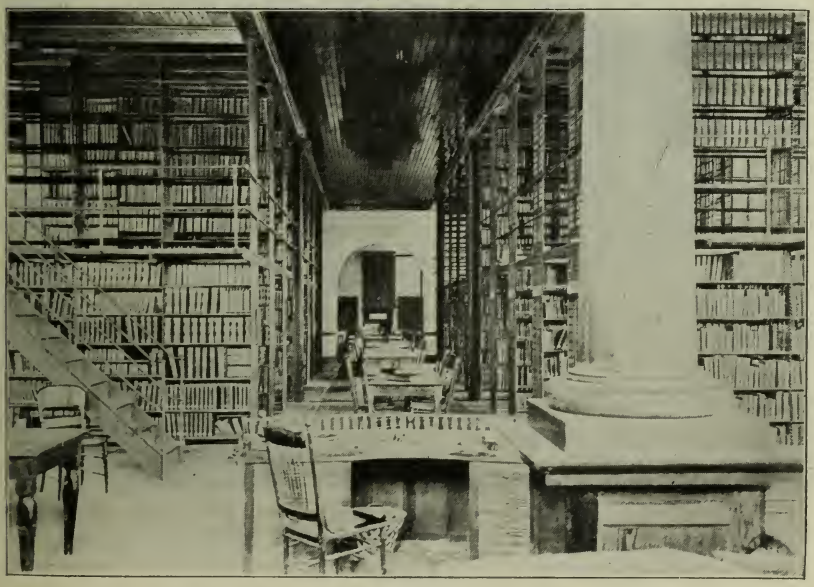
Economics.

The technical training which the state provides for young men and women is intended to be of social rather than individual advantage. It is assumed that the student who has been trained at the expense of the state will increase the productive capacity of the community in which he employs his skill, and thus advantage society as well as himself.

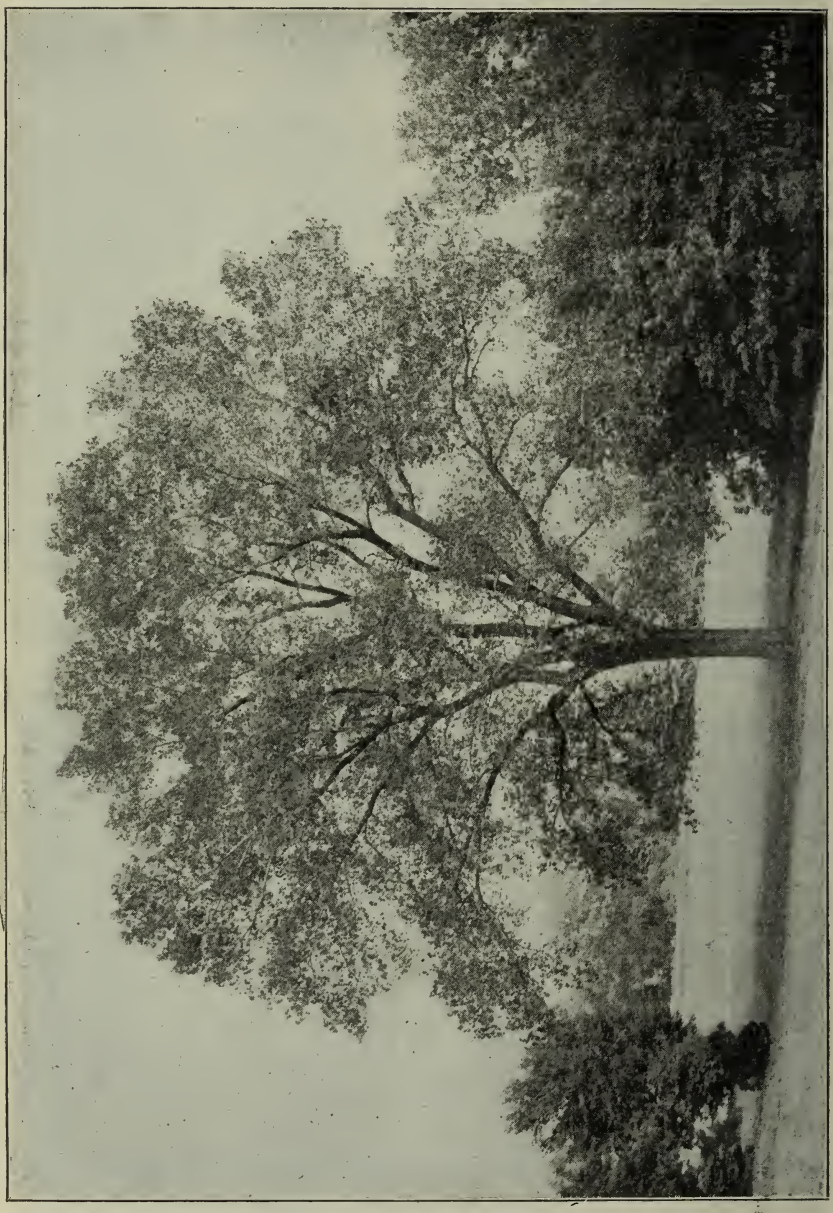
His whole obligation to society, however, is not discharged in this way. He owes something to the state as a citizen. As such he cannot escape the responsibility of contributing his share towards the solution of economic problems which grow out of the complex industrial system of which he is a part. To this end he should be familiar, at least, with the fundamental principles which underlie the production, exchange and distribution of wealth, and which enter so largely into the numerous economic problems that await popular solution.

It is the aim of this department, therefore, to emphasize the application of economic principles to industrial conditions. In doing this care is taken to avoid a dogmatic presentation of any subject. Students are encouraged to form habits of investigation and correct thinking before arriving at conclusions. The instruction given is by a combination of the text-book and lecture methods, which offers a means of escape from the narrowness and dogmatism that result from exclusive reliance on a text-book, and from the waste of time in imparting information by lectures only, when such could be acquired more surely and quickly from the printed page. A department library of well-selected books bearing on economics, sociology and statistics is at the disposal of students, and is used for collateral readings, book reviews, and reports.

A term's work in this subject is required in the senior year of all courses. Text used, Seager's Introduction to Economics.



BOOK ROOM.



COTTONWOOD ON CAMPUS.

English Language and Literature.

As its name implies, the work of this department is twofold: on the one hand it deals with the derivation, nature and especially the effective use of our mother tongue in practical discourse; on the other, it studies the literature of the English-speaking world, as exemplified by the master writers at different periods of our literary development. Thus, the attention of the department is devoted to the study of rhetoric and to the study of literature.

The aim of the instruction in rhetoric is to give a thorough and systematic training in the principles and practice of English composition. The most common errors to which inexperienced writers are subject are pointed out and criticized. The elements of style are studied from a text-book, discussed in daily recitations, and applied practically in the writing of paragraphs, themes, and essays. Attention is given to methods of finding, selecting and arranging material and to the application of these methods in the various types of discourse.

In literature, the instruction seeks to give the student an understanding of the nature and characteristics of literature in its leading forms, to develop in him a taste for the best literature and enthusiasm for literary study, to impart to him right methods, to train him in the ability to judge with confidence the literary qualities of any given work, and, through sympathetic study of masterpieces, to give him some knowledge of the leading authors.

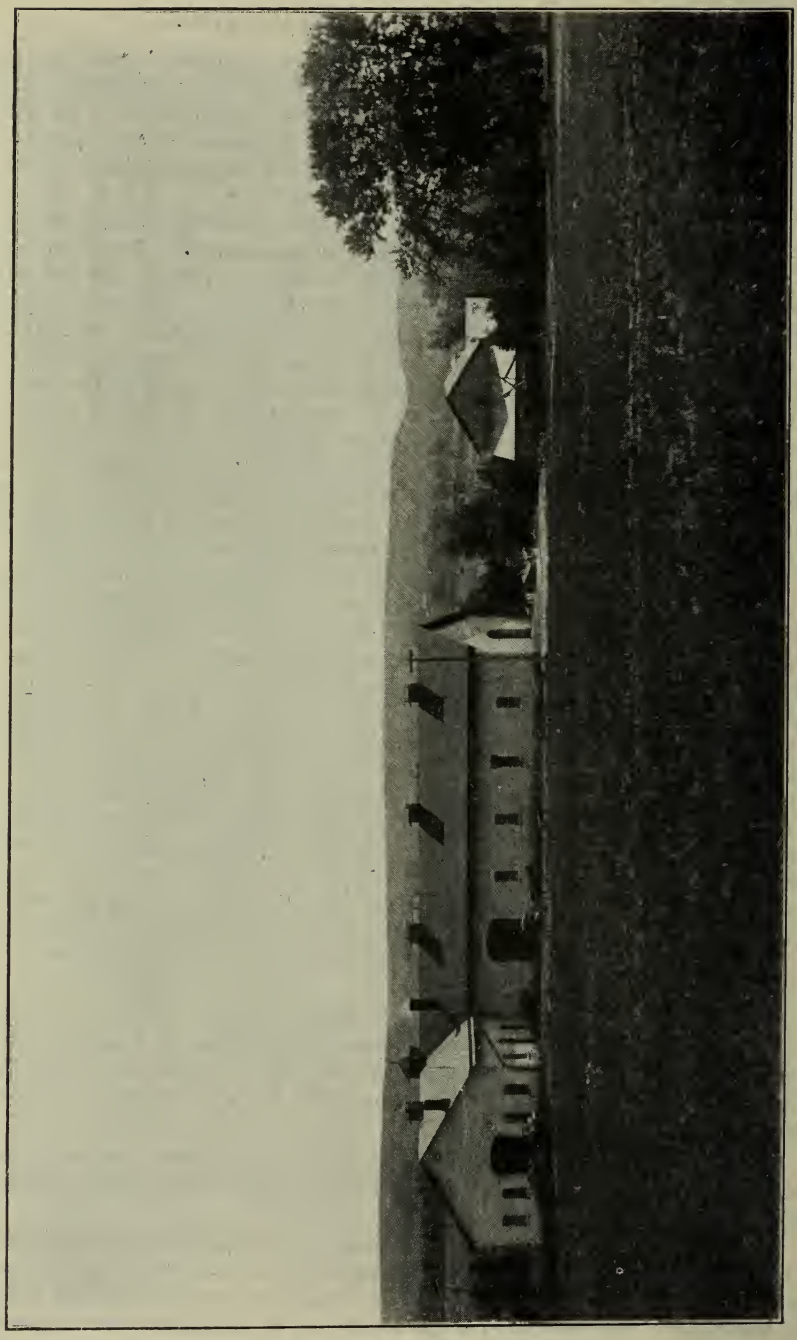
In most of the courses the work is pursued by a combination of lectures, classroom study, and seminary investigation. The literature is read at first hand and the student is required to do for himself, by way of interpretation, as much as possible. The extensive and intensive methods are combined: wide reading, to get literary atmosphere and breadth of view; critical study, to develop accuracy and insight. While historical conditions are not neglected, the weight of emphasis is placed upon the permanent qualities of literature as an artistic expression of life. To know what some one has said about a great author is deemed to be of less importance than what a great author has said for himself.

Students who present acceptable evidence of having satisfactorily studied the works now generally prescribed for admission to American colleges and universities, or the equivalent of those works, may receive credit for the course in English readings given in our preparatory year and for the course in English classics given in the first year. The works prescribed are divided into two groups—one for intelligent reading and one for careful study. The lists for the next two years are as follows:

I. For Reading: Shakspere's The Merchant of Venice and Julius Cæsar, the Sir Roger de Coverley Papers, Goldsmith's The Vicar of Wakefield, Coleridge's The Ancient Mariner, Scott's Ivanhoe, Carlyle's Essay on Burns, Tennyson's The Princess, Lowell's The Vision of Sir Launfal, George Eliot's Silas Marner.

II. For Careful Study: Shakspere's Macbeth, Milton's Comus, L'Allegro, and Il Penseroso, Burke's Speech on Conciliation with America, Macauley's Essays on Milton and Addison.

The examination for credit in English readings will usually consist of writing a paragraph or two on each of the several topics drawn from group I of the above list, or from the list given on page 106 of the catalogue, under the heading "English Readings." The treatment of the topics will be designed to show a general knowledge of the books read, and especially to test the candidate's power of clear and accurate expression. For credit in English classics the examination



THE COLLEGE BARNS.

will be upon the subject-matter, form, and structure, and presupposes a thorough study of the books in group II above or in course 1 below. Especial attention is called to the fact that candidates are thus left free to offer for credit either the books in the lists named or to substitute others of equivalent literary value.

Each applicant for admission is advised to present from his instructor a detailed statement of the books read, the time covered by any course, and the grades attained, together with any exercise book he may have containing compositions or other written work done in connection with his studies in English.

What other credits in preparatory or freshman English shall be given will be determined partly by the examinations described above and partly by other evidence the candidate may give that he understands the essential of grammar and has a practical knowledge of the elements of composition. The aim will be to assign each student to that course which he is prepared to pursue with greatest profit.

All applications for credit in English should be presented at the beginning of the first term of attendance.

Of the studies described below, Nos. 1, 2, 3 and 4 are required in all courses; No. 5 is required in the agriculture and engineering courses; Nos. 6 and 7 are required in the domestic science and general science courses.

1. **English Classics.** First year, fall term. A careful study is made of a number of standard authors, English and American, of first-class interest and easy style. As far as possible, the selections are read and discussed in class. Character sketches, paraphrases, abstracts, outlines, and analyses, as well as biographical sketches of the authors, are regularly required. The students are given continual opportunity for studying and rendering the best thought in the best forms, and are at the same time encouraged to develop their own thought and powers of expression. The aim of the course is to afford practice in composition as well as a knowledge of the selections read.

Class Readings.—Shakspere's Merchant of Venice; Milton's Minor Poems; Pope's Homer's Iliad; Coleridge's Ancient Mariner; Scott's Ivanhoe; Tennyson's Princess; Cooper's Last of the Mohicans; Lowell's Vision of Sir Launfal.

2. **Advanced Composition.** First year, winter term. The work in this course is a continuation and extension of that begun in composition. Especial attention is given to precision in the choice of words, to correctness in the various forms of sentence structure, and to unity and coherence in both the sentence and paragraph. Constant practice is given in writing paragraphs and in the preparation of brief essays on familiar themes.

3. **Rhetoric I.** First year, spring term. A continuation of course 2. Further practice is given in paragraph writing. Description, narration and exposition are studied as distinct types of discourse, with constant practice in making outlines and writing themes illustrative of these types. So far as possible the student is trained in the habit of criticizing his own work.

4. **Rhetoric II.** Third year, fall, winter or spring term. Study of style and invention. Rhetorical analysis of masterpieces. Lectures on oratorical composition. Practice in the making and criticism of plans for argument and orations. Essays in exposition, argumentation, and persuasion, and briefs for debate.

5. **English Literature.** Fourth year, winter or spring term. A brief survey of the rise and development of English literature, with library study of typical authors. Lectures: The nature of literature; the nature of poetry; the periods of English literature. Class study and interpretation of masterpieces.

6. **English Literature I.** Fourth year, fall or winter term. The history of the English language and literature. Lectures: What is literature? What is poetry? Elements of literary criticism; the beginnings of fiction; nature of the drama; the plays of Shakspere; the age of Scott, Burns, and Wordsworth; Tennyson and his relation to his age. The study of Shakspere, Thackeray and other great writers out of class, with reports and discussions. Classroom study and interpretation of masterpieces.

7. **English Literature II.** Fourth year, winter or spring term. A continuation of course 6. The study of Shakspere, Shelley, Thackeray, Burns, Browning, and other writers. Elements of Shaksperian criticism.

ELECTIVE.

8. **American Literature.** Fourth year, spring term. A rapid survey of the rise and development of American authorship from colonial times to our own day. Study of the lives of representative men of letters. Seminary study of some of the great novels, essays, and longer poems. Classroom study and interpretation of some of the more difficult poems. Lectures.

LOVER'S LANE.

Entomology, Zoology, and Geology.

t is not necessary to enlarge upon the importance of the studies in this department either to the student seeking general culture or to the specialist in agricultural lines. The fundamental facts of zoology underlie all appreciation of he special studies peculiar to our institution in animal biology, and are moreover essential to an understanding of the true relation subsisting between man and the creatures under his influence; while those of geology show the application of many principles of physics and biology to commonly observed but otherwise little understood phenomena daily before every one. In courses of study framed to meet the needs of the young in an essentially agricultural community, where most have come from the farms, and most must return to them, a study of the minute but important insect friends and foes of the cultivator is not only desirable but essential. The study of insects, however, offers, in addition, especial opportunity for the development of habits of discriminating observation that will be of value in any walk of life.

Of the studies here outlined, Nos. 1, 3 and 4 are required in the agriculture and general science courses, Nos. 1 and 3 in the domestic science course.

1. **Entomology.** Second year, fall, winter or spring term. In the work of this term the intention is to give the student a basis for the intelligent appreciation of the important relations of the science to agriculture and horticulture. A brief view of structural types precedes an outline of insect classification, and a special study of the economic bearings of the subject completes the work. Illustrative material is furnished from the individual collections of the students and from the College museum. Charts, dissections and drawings from nature are used to illustrate points of value in classification. The pocket lens used in botany is required in this study. Text-book, Comstock's Manual for the Study of Insects, abridged.

2. **Advanced Entomology.** Fourth year, elective. Courses are offered in the following lines: (*a*) Review of the general subject, with the text-book, Comstock's Manual, extended. This study is desirable as preliminary to work in systematic or economic entomology. (*b*) Entomological methods, including field-work in observation and collection, laboratory work in preparation, dissection, and preservation, and in the study of life-histories, by the aid of the vivarium. (*c*) The independent and critical study of systematic entomology, the work in which may be restricted, when desired, to groups of special agricultural importance. (*d*) Economic entomology, so far as relates to the insects of field and garden, with a special study of methods of repression.

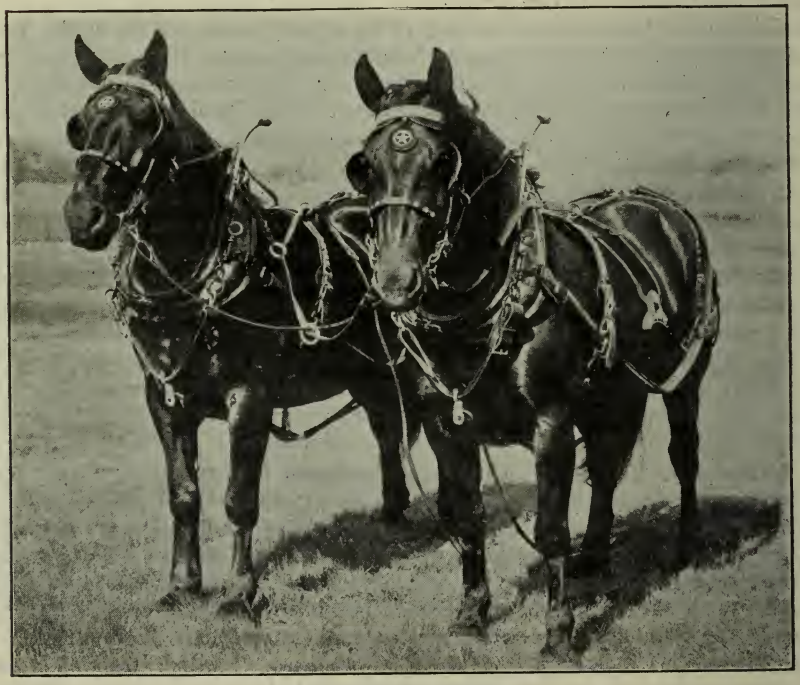
3. **Zoology.** Third year, winter or spring term; fourth year, fall term. This course is an introduction to the study of animals—their structure, functions, habits, origin, relationships, and classification. The student is first introduced to the simplest forms of animals, in which structure and functions are expressed in their simplest terms. From the consideration of these he passes in a natural manner to the study of higher and more complex forms, thus obtaining a knowledge of the gradual differentiation of structure and correlative specialization of functions so clearly illustrated by the study of types. Special attention is paid to animal ecology—*e. g.*, the relation of animals to their environment, effects of climate, soil, etc.; parasitism, commensalism, symbiosis; natural and artificial selection; the interdependence of species, and the caution which must be observed in interference with these natural relations. The course should be preceded by organic chemistry and physiology.

4. Geology. Fourth year, fall or winter term. in this study attention is chiefly given to the subject of physical geology, with a brief view of the argument and basis of the historical phase of the science.

MEANS OF ILLUSTRATION.

The illustrative collections embrace ample series of specimens, including the College collection of rocks, the stratigraphical collection, and the collection illustrating phenomenal geology, all from the Ward establishment; the educationa collection, from the United States Geological Survey; and a valuable series of rocks and rock-forming minerals, from the National Museum. To these are added numerous specimens, especially from Kansas localities; and a small but increasing representation of characteristic fossils is also open to the student.

The zoological museum, containing numerous representatives of the several classes, especially full in fishes and mollusks of Kansas and in illustrations in economic and systematic entomology. Increasing material in skins, alcoholic and anatomical preparations is available also for the use of the student.



PERCHERON TEAM.

German.

In whatever line the modern student turns his energies a practical knowledge of German is very useful, often indispensable. In literature, the arts, and the sciences, much of the newest and best work appears in German, so that he who would keep abreast of the times is forced to acquire at least the rudiments of that language. It is planned to have the work in this department as practical as possible without, however, excluding the growth in the pupils of a love for literature. The tendency toward introducing German classics into second- or even first year courses is becoming too frequent, students who have "mastered" Faust are too often unable to make the most commonplace remarks in German or to read current German literature fluently.

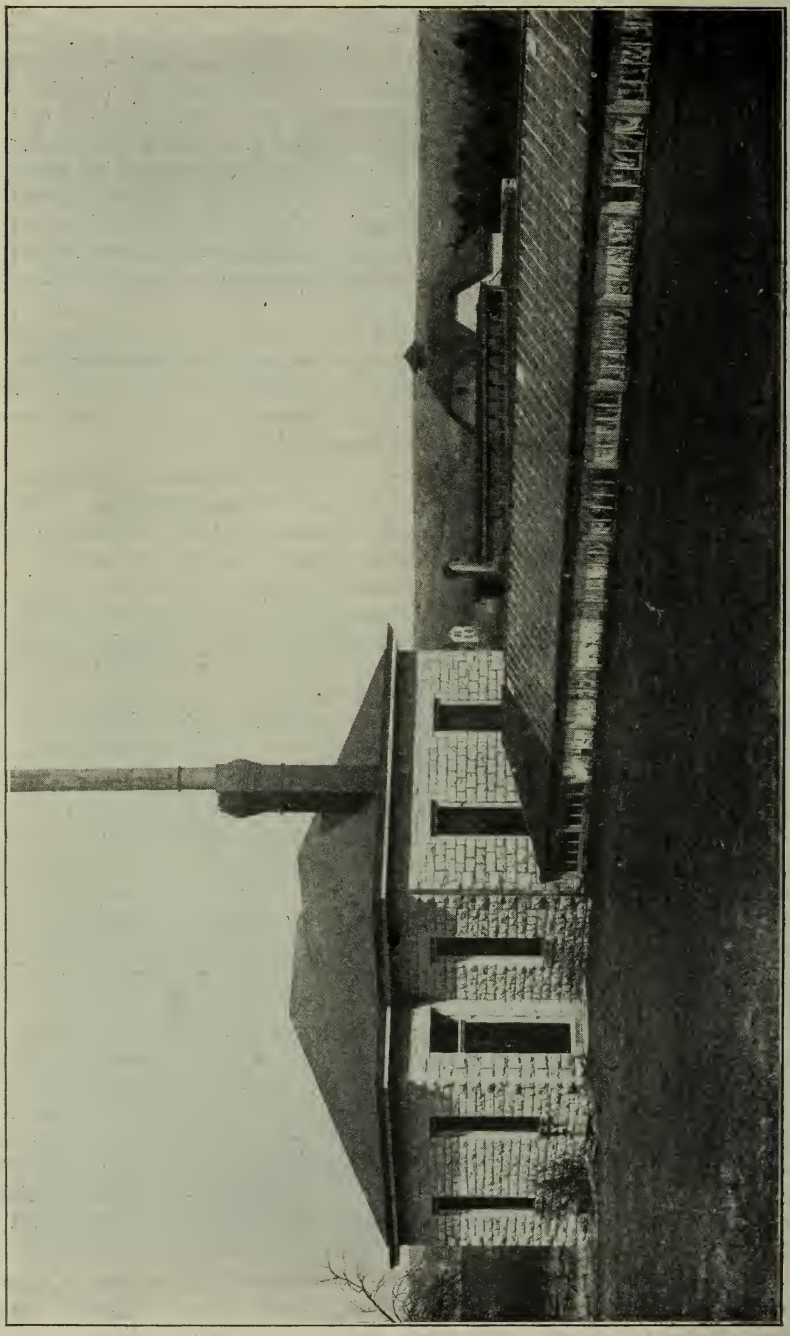
Of the work described below, Nos. 1, 2 and 3 are required in all courses except agriculture, where they may be taken as a fourth-year elective, and Nos. 4, 5 and 6 are required in the general science and domestic science courses. The work must be taken in the order here given, the only exception being German VI, which may be taken any time after German III.

1. **German I.** Second year, fall term. After two recitations given to learning the sounds of the German letters, the pupil at once begins reading. Vocabularies are learned from the start. Grammar is learned gradually, with the reading lessons, in such a way as not to discourage the pupil. Oral and written work, as also simple conversational exercises, begins with the first reading lesson. Strong, weak and mixed verbs; separable, inseparable and reflexive verbs; the indicative mood, active (except future perfect), present and imperfect tenses of the subjunctive active and of the indicative passive are studied. Inflection of personal pronouns, declension of strong and weak nouns, of the definite and indefinite articles, are learned. Twenty reading lessons, the same number of conversational exercises, and of translations of sets of English sentences into German and four sight-readings are taken up during the term. Text, Keller's First Year in German (first twenty lessons).

2. **German II.** Second year, winter term. Pupils are drilled on the grammatical points already gone over in German I. The remainder of the more important parts of the grammar are studied, the remaining tenses, both active and passive, the rest of the pronouns, mixed nouns, comparison of adjectives, etc. The same number of reading lessons, conversational exercises, translations of English into German and sight-readings as in German I are taken here. Text, Keller (lessons 21 to 40).

3. **German III.** Second year, spring term. More stress is laid on translations into good idiomatic English than heretofore, and the passages read are of increased length. There is oral work on each exercise read, and occasional translations into German. Such selections are read as will give something of an insight into German manners and customs. A few of the most popular songs are studied. Some of the chief treasures of German mythology and saga are taken up, as well as extracts from German history. Whenever a tendency to drag is noticed, one of the anecdotes given in the appendix will be read. Text, Müller and Wenckebach's Glück Auf.

4. **German IV.** Third year, fall term. The student begins with very simple scientific reading. The material read covers a wide range of subjects; among others, chemistry, physics, mechanics, geology, physiology, political economy, etc. Occasionally the exercise will be varied by translations into German. Text, Dippold's Scientific German Reader.



EXPERIMENT STATION BUILDING.

5. **German V.** Third year, winter term. The work is essentially the same as that of the fall term, but a much greater amount will be read. Text, Dippold's Scientific German Reader.

6. **German VI.** Third year, spring term. The classes now return to literary readings. The delightful and not too difficult extracts here taken deal with German peasant life. In addition, one number of some German newspaper will probably be read during the term. Text, Rosegger's Waldheimat.

History and Civics.

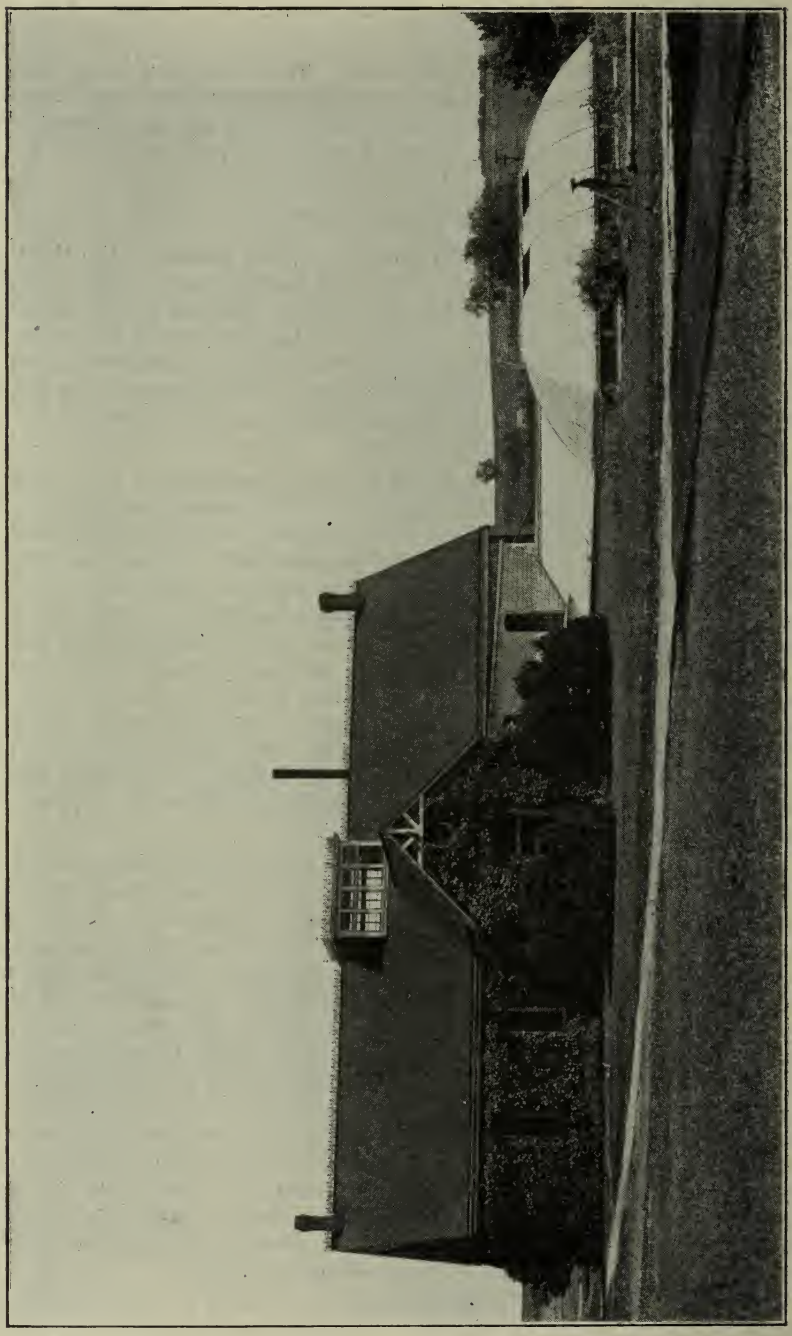
The department of history and civics offers three courses in the third and fourth years, arranged in consecutive terms and planned so as to make a logically continuous course. The modern European history includes the American history to 1776. Then the course in civics takes up the study of the articles of confederation and of the constitution. The third term is devoted to an advanced course in American history under the constitution. The constant aim is to make the work definite and practical, in keeping with the spirit of the school.

Nos. 1, 2 and 3 are required in all courses.

1. **European History.** This course covers the period since 1492. The following are among the subjects emphasized: The Protestant reformation and the later development in the history of the church; the thirty years' war, especially its causes and results; the second great series of wars between England and France, including the French and Indian wars, the American revolution, and the Napoleonic wars to 1815; the French revolution; the rise and fall of Spain; the growth of France and recent changes in her government; the creation of the German empire and of modern Italy; the heroic struggle of the Netherlands and the growth of Russia; the last century of European history, the chief facts in the present governments of the European nations, and their present international relations. Special attention is given to English history and her present government, for England's history includes that of her American colonies down to the war of American independence. Text book, Schwill's History of Modern Europe.

2. **Civics.** This course is introduced by a brief study of the government of the colonies; the English government and the causes of the American revolution, in so far as these help to explain our present constitution; a careful study of the articles of confederation and the government under them; the constitutional convention and the adoption of the constitution. The work of this term is chiefly devoted to a systematic study of our national constitution and of the actual government under that instrument. Constant comparison is made with our own state government. Current events and incidents from history are used to illustrate the various points until the every-day affairs of our government are made clear and familiar. Comparison with other governments, especially with that of England, is made wherever this seems helpful. Selected cases from the United States supreme court reports are studied. A few lectures are given on the principles of international law and of commercial law. Text-book, Andrews's New Manual of the Constitution. References: Boyd's Cases; Hart's Actual Government; Cooley's Constitutional Law; Story on the Constitution; Bryce's American Commonwealth; the national and state statutes.

3. **American History.** This is an advanced course in the history of the United States under the constitution. The brevity of the course requires judicious selection of the points to be emphasized, and the following lines of our



HORTICULTURAL HALL AND GREENHOUSES.

national history are especially studied: The establishment of the nation and the organization and functions of the various departments of its government; the important presidential elections; Hamilton's financial measures, taxation, banks, internal improvements; history of political parties, their issues and their leaders; foreign relations and connecting links between Europe and America, as in the Monroe doctrine; the slavery question—compromises, the laws and the constitution; nullification and secession throughout our history; annexation and government of territories; national boundaries; the growth and development of the West, with a study of its influence on our national character and history; the early Kansas struggle; civil war, reconstruction, and the new nation. The whole course is a study of the practical application of our constitution in operation. Text-book, Channing's Students' History of the United States. Library work on selected topics.

Horticulture.

It is the object of the department to give such instruction and practice as will enable students to become acquainted with the general principles of plant culture and the practical applications of these principles. The work is planned to give them such knowledge of horticulture as will best help to increase the capacity of the student for the enjoyment of outdoor life and work with plants and to enable them to increase the comforts, beauties and profits of life on the farm.

No. 1 is required in the agriculture, domestic science and general science courses; Nos. 2 and 3 in the agriculture course; and No. 4 in the domestic science course.

1. **Horticulture.** Second year, winter or spring term; third year, fall term. The work of this term presents the principles of the art, introducing the facts underlying the methods of general practice in nursery, orchard and garden work. The text-book, Goff's Principles of Plant Culture, is supplemented by lectures which are intended to adapt the general principles to the particular conditions which the student is likely to meet. The planning and planting of windbreaks, groves, orchards, and gardens, with notes as to species and varieties adapted to various conditions, form the subject-matter of the lectures.

Laboratory.—This includes work in testing and planting seeds; the construction and care of cold-frames and hotbeds; spring pruning; setting trees and plants; the use of garden tools and spraying apparatus.

2. **Horticultural Laboratory.** Third year, fall term. The work consists of the fall work in pruning and protecting trees, shrubs, and vines; the collecting and handling of seeds, indoor methods of propagation, including the making and storing of grafts and cuttings.

3. **Vegetable-gardening.** Third year, spring term. The work of this term is given by lectures, and is devoted to methods of field operations, with special attention to seasonable practice, including the use of manures, the application of fungicides and insecticides, the means of securing and maintaining sanitary conditions, and a detailed study of varieties, with reference to their adaptation to local conditions.

4. **Floriculture.** Second year, winter term. This consists of laboratory work in propagating, potting and caring for plants, window gardening, seed-sowing, and transplanting seedlings. Opportunity is furnished the student to become familiar with the various window and greenhouse plants.

Students who choose their electives along horticultural lines are offered:

CLASS IN HORTICULTURE.

ELECTIVES.

5. **Pomology.** Fourth year, fall term. The work of this term comprises a careful study of the classification of fruits; a systematic study of varieties; the means of identification; their variation in plant and fruit under different conditions of soil and culture; and their botany and history. Waugh's Pomology is used as a text, and work with fruits is made a part of the course.

Forestry. Fourth year, winter term. The work of this term presents the general principles and methods of forestry, dealing with the relations of forests to public welfare, and the means of regulating and preserving forests. Gifford's Practical Forestry forms the basis of the term's work, supplemented by lectures upon tree-planting for the farm, care of wood-lots, windbreaks, post planting, etc.

7. **Ornamental Gardening.** Fourth year, spring term. The principles of this art are studied in relation to their application to the planning and planting of home grounds, streets, parks, and cemeteries. The value of the various trees, shrubs, annual and perennial herbaceous plants for securing desired effects are taken up in detail, with special reference to their use under differing climatic and soil conditions. Graduate students or those electing more than a single term's work in this subject study in fuller detail the foregoing topics and also the propagation, training and general culture of the various plants.

The increasing interest in the preservation and increase of forest areas has created a demand for more extended information concerning forest work and methods. The plantations of the College, standing as they do in different soils and situations, offer material for comparison with native growths. The nursery offers opportunity for experience and observation in methods of propagation and transplanting and the formation of new plantings.

Graduate students are offered the following:

8. **Dendrology.** Lectures. The characters of trees; their habits of growth as influenced by local conditions; distribution of the different species; special study of the native species; flower, leaf and seed characters; methods of propagation.

Laboratory.—Nursery practice; planting, thinning and pruning of plantations; pruning and care of shade and ornamental trees.

9. **Forest Technology.** Text, Boulger's Wood. Structure and growth of woods; their classification according to structure and economic uses.

Laboratory.—Gathering and storing of seeds; fall and winter planting; special treatment to insure germination, etc.

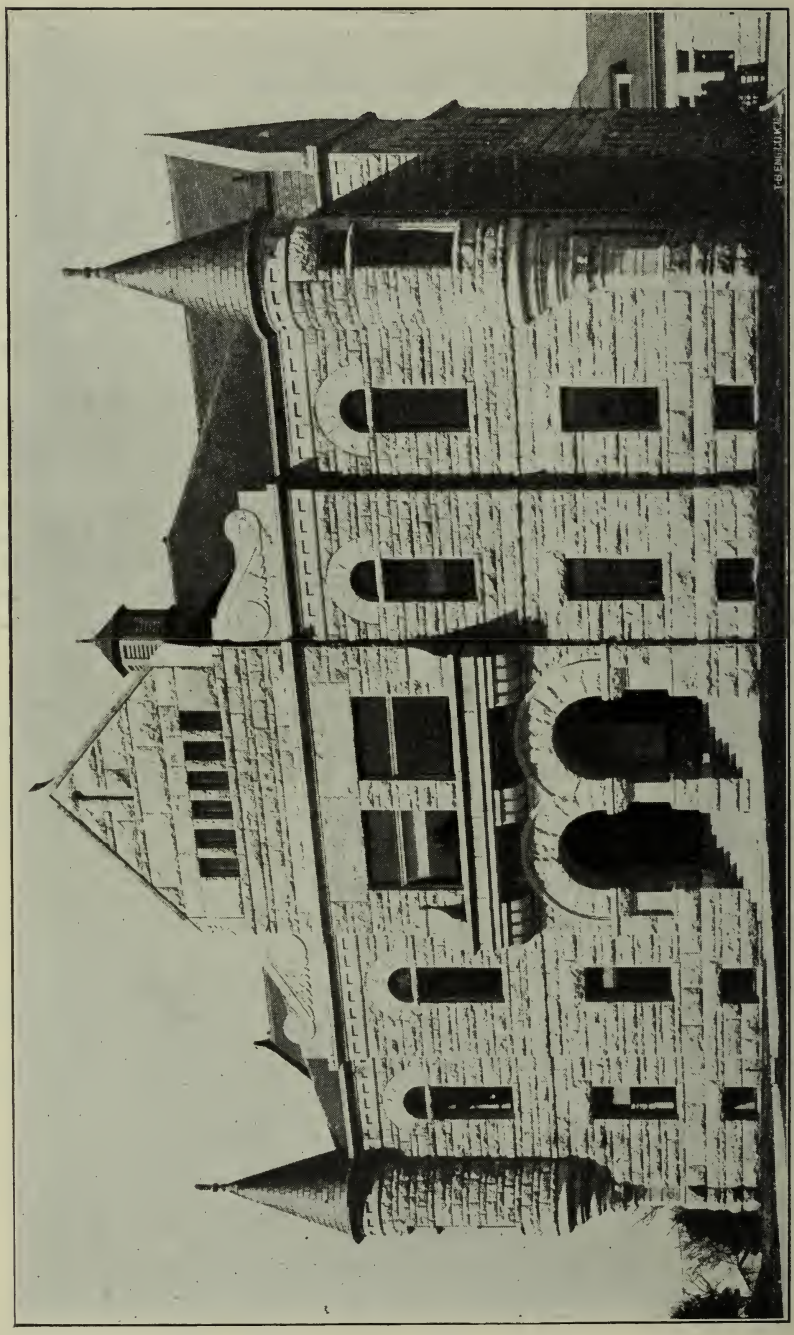
10. **Silviculture.** Lectures and references. Life-history, laws of growth and requirements of forests; forest characteristics; trees important in forestry and to farm plantings; relation of forestry to national economy.

Laboratory.—Forest mensuration. Determinations of volume, height, and stand, and the determination of the volume, height and stand increments. Stem analysis, valuation surveys, etc.

11. **Forest Management.** Plans and plantings of forests; their cultivation, care, and protection; plantings for definite purposes—to prevent erosion, protection from wind, to fix shifting sand, to regulate floods, for the utilization of worthless areas; harvesting, utilization, etc.

MEANS OF ILLUSTRATION.

Orchards comprising seventy five varieties of apples, forty of plums, thirty of peaches, fifteen of cherries; plantations of native fruits; small-fruit plantations containing many varieties; vineyards containing 175 varieties, and six forms of



AGRICULTURAL HALL.

trellises; a large collection in the arboretum and on the grounds of shrubs and timber, shade and ornamental trees; about thirty acres of forest plantings; fifteen acres of nursery and garden; a large collection of native and foreign plants in greenhouses; a collection containing 200 models of fruit; a grape herbarium containing leaves, canes, seeds and photographs of the fruit of 175 varieties of grapes; collections and specimens of woods; herbarium of fungous diseases, and numerous charts. The general library and the department library furnish ample opportunity for research work in various lines.

Mathematics.

It is the aim of the department of mathematics to give a thorough training in a small number of subjects, and to develop in the student the ability to attack new problems successfully rather than to burden his mind with a large number of facts and special methods. It is also characteristic of the methods of the department that an attempt is made to give the mathematical subjects a touch of human interest by directing the attention of the student to the historical development of these topics. The statement following contains a brief description of the courses to be given.

Nos. 1 to 8 are required in the engineering courses, and Nos. 9 and 10 in the mechanical and electrical courses, respectively; Nos. 1 to 5 in agriculture and general science courses, and Nos. 1 to 3 in domestic science.

1. **Geometry I.** First year, fall term. Text book, Gore. First, second and third books, with exercises for original demonstration.

2. **Geometry II.** First year, winter term. Continuation of course 1. Fourth, fifth, sixth, seventh and eighth books, treated as before, with special attention to original work.

3. **Algebra IV.** First year, spring term. Text-book, Wells's New Higher Algebra. Binomial theorem, undetermined coefficients, logarithms, and general theory of equations.

4. **Trigonometry.** Second year, fall term. Text book, Wentworth. Solution of plane triangles, essentials of goniometry, applications to surveying and navigation.

5. **Surveying.** Second year, fall term. Field-work two hours per week. Use and adjustment of instruments, chaining, leveling, and land surveying.

6. **Analytical Geometry.** Second year, spring term. Text-book, Wentworth. Rectangular and polar coordinates; the straight line, circle, parabola, ellipse, hyperbola, and the general equation of the second degree.

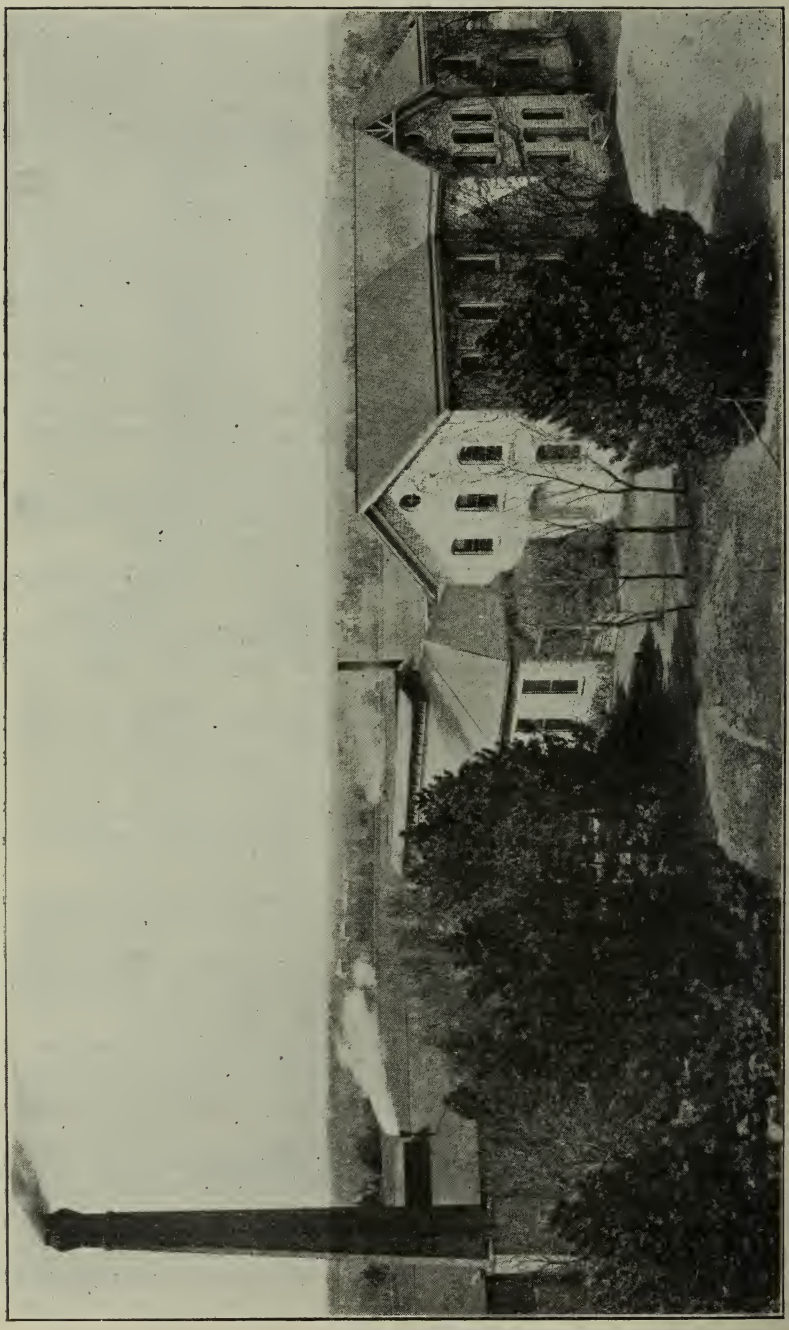
7. **Differential Calculus.** Third year, fall term. Text book, Osborne. The various methods of differentiation, with the usual applications.

8. **Integral Calculus.** Third year, winter term. Same text. Integrations, with applications to curves and surfaces.

9. **Definite Integrals.** Third year, spring term. Integration between limits. Lectures on the theory of the subject, with applications to practical problems.

10. **Differential Equations.** Third year, spring term. Lectures on the theory of the subject, with solution of examples of the various types.

In addition to the above, courses is theory of equations, advanced calculus, theory of functions or other branches of higher mathematics may be offered to graduate students, or to undergraduates who are able to carry extra work.



MECHANICS' HALL.

Mechanical Engineering.

The subjects in this course are adapted primarily to the needs of the students in mechanical engineering, but a few subjects are introduced to meet the requirements of the other courses. The subjects are so arranged that the student first learns the principles upon which the action of a mechanism depends in the classroom, and afterwards studies the action of the same mechanism in the laboratories and shops.

In the mechanical engineering course, all numbers below are required but 26 and 34

In the agriculture and general science courses, Nos. 1, 2 and 3 are required.

In the electrical engineering course, all the subjects in the first and second years are required. In the third and fourth years, Nos. 11, 12, 13, 14, 15, 16, 26, 29, 34, 35 and 37 are required.

1. **Woodwork I.** First year, fall term. A graded set of problems in joining is given, together with practice in working to dimensions, and the proper use and care of bench tools. Tools required: Two-foot pocket folding rule.

2 **Woodwork II.** First year, winter term. This work is a continuation of that given under woodwork I.

3. **Blacksmithing I.** First year, spring term. A graded set of problems designed to teach the operations of drawing, upsetting, welding, and forming, accompanied with instruction in the care of fires and the behavior of iron at different heats.

4. **Shop Lectures I.** Second year, fall term. Lectures of this term are on the structure and properties of the various structural materials. In all shop lecture courses the students are required to hand in from time to time well written notes on the subjects discussed in the lectures. These notes are to be written in ink in a book 8 x 10½, preferably one with loose leaves.

5. **Blacksmithing II.** Second year, fall term. Advanced work in the forging of iron and the manufacture of steel tools. Instruction is given in tempering, case-hardening, and annealing. Tools required: Two foot rule, one pair of five inch outside calipers.

6. **Kinematics of Machinery.** Second year, winter term. An elementary course in mechanisms, particularly the principles involved in the construction of gears, cams, and quick return motions. Preparation required: Trigonometry. Text book, Schwamb and Merril's Treatise on Mechanism.

7. **Foundry.** Second year, winter term. Foundry practice is given in both floor and bench molding, including the making of cores, brass and iron castings, and the mixture of special alloys. Cupola practice and the making of machine castings for shop use are included.

8. **Shop Lectures II.** Second year, spring term. Lectures of the first half of this term are selected to accompany the work in pattern-making. The second half of the term is given to lectures on the construction, care and use of machine tools. Preparation required: Foundry and shop lectures I.

9. **Mechanical Drawing I.** Second year, spring term. Exercises in lettering, shading, and the drawing of simple mechanisms. Each student is expected to provide himself with the following drafting supplies: Triangles, T square, scale, pencils, pens, ink, erasers, thumb tacks, and drawing instruments. It is desired, however, that the supplies be not purchased until after consultation with the instructor in charge of the work.

10. **Pattern-making.** Second year, spring term. This term's work includes wood-turning and pattern making. Each student is required to turn several specimens and make various patterns. Tools required: One two-foot rule, one pair three-inch to five-inch dividers, one pair five-inch outside calipers, one pair five inch inside calipers, one six-inch scale.

11. **Mechanics.** Third year, fall term. A course in elementary mechanics, including the laws of motion, force, work, and energy, together with the composition and resolution of forces. Preparation required: Trigonometry and kinematics of machinery. Text book, Dana's Elementary Mechanics.

12. **Shop Lectures III.** Third year, fall term. Lectures are given on shop methods, duplication of work, etc. Preparation required: Shop lectures II.

13. **Mechanical Drawing II.** Third year, fall term. The design of cams, gears, and quick return motions. Preparation required: Mechanics and mechanical drawing I.

14. **Machine-shop I.** Third year, fall term. Practice in chipping, filing, scraping, and laying out work from drawings.

15. **Mechanical Drawing III.** Third year, winter term. A continuation of mechanical drawing II, and practice in machine drawing.

16. **Machine-shop II.** Third year, winter term. Instruction in lathe work, gear-cutting, boring, and drilling. Tools required: One two-foot rule, one six-inch scale, one pair three inch to five-inch dividers, one pair five-inch outside calipers, one pair five-inch inside calipers, one center gage, one center drill. Students are advised to purchase a combination square, but this is not required.

17. **Valve Gears.** Third year, spring term. A study of the design, construction and operation of the valve gears and linkages of steam- and other engines. Preparation required: Mechanics and differential calculus. Text-book, Peabody's Valve Gears for Steam-engines.

18. **Shop Lectures IV.** Third year, spring term. Lectures on the selection, arrangement and organization of manufacturing plants; cost, accounting, etc. Preparation required: Shop lectures III.

19. **Mechanical Drawing IV.** Third year, spring term. A continuation of the previous term's work.

20. **Machine-shop III.** Third year, spring term. Advanced work on lathes, planers, and milling machines, including tool-making.

21. **Steam-boilers.** Fourth year, fall term. A study of the construction, erection and operation of steam-boilers and appliances, including the study of tools. Preparation required: Valve gears and integral calculus. Text book, Peabody and Miller's Steam-boilers.

22. **Graphic Statics.** Fourth year, fall term. The graphic solution of the problems arising in the construction of roofs, bridges, and other framed structures. This subject is taught by means of lectures and drawing exercises. Preparation required: Mechanics and mechanical drawing IV.

23. **Shop Lectures V.** Fourth year, fall term. Lectures on the transmission of power by electricity, including a course of instruction in the construction, care and operation of electrical machines most likely to be met with in practice by mechanical engineers. Preparation required: Shop lectures IV and valve gears.

24. **Engineering Laboratory I.** Fourth year, fall term. Experiments in valve setting, efficiency of hoists, gage and planimeter tests, etc. Preparation

required: Third-year mechanics and steam boilers. Text-book, Smart's Laboratory Practice.

25. **Mechanical Drawing V.** Fourth year, fall term. The design of the valve motions and reciprocating parts of the steam engine, and work in drawing-room based on the classroom work in valve gears.

26. **Mechanical Drawing VIII.** Fourth year fall term. This work is given the electrical engineers only, and consists of exercises in machine drawing, etc.

27. **Machine-shop IV.** Fourth year, fall term. The time of this term is devoted to the building of a small machine or making the parts of a large one.

28. **Thermodynamics I.** Fourth year, winter term. A study of the thermodynamic principles of perfect gases, saturated and superheated vapors, and the theory of injectors. Preparation required: Steam boilers and definite integration. Text-book, Peabody's Thermodynamics of the Steam-engine.

29. **Applied Mechanics I.** Fourth year, winter term. The application of the principles of theoretical mechanics to problems arising in practice. Preparation required: Graphic statics and definite integration. Text-book, Goodman's Mechanics Applied to Engineering.

30 **Shop Lectures VI.** Fourth year, winter term. Lectures on the design, construction and operation of steam-turbines. Preparation required: Thermodynamics I.

31. **Engineering Laboratory II.** Fourth year, winter term. A continuation of the previous term's work, with practice in running steam-engine and air-compressor tests Preparation required: Engineering laboratory I.

32. **Mechanical Drawing VI.** Fourth year, winter term. The design of a complete machine, engine, or boiler; an application of the principles studied in thermodynamics and applied mechanics. Preparation required: Mechanical drawing V and steam boilers.

33. **Machine-shop V.** Fourth year, winter term. A continuation of the previous term's work.

34. **Engineering Laboratory IV.** Fourth year, winter term. A course in testing the strength of materials and steam-engines, for electrical engineering students.

35. **Applied Mechanics II.** Fourth year, spring term. A continuation of the work of the previous term, including a study of the strength of materials and the design of structural members. Preparation required: Applied mechanics I. Text book, Goodman's Mechanics Applied to Engineering.

36. **Thermodynamics II.** Fourth year, spring term. A continuation of the work of the previous term, including the thermodynamics of gas-engines and air-compressors. Preparation required: Thermodynamics I. Text-book, Peabody's Thermodynamics of the Steam engine.

37. **Hydraulics.** Fourth year, spring term. This term's work includes a study of the principles of hydrostatics and the action of water motors. Preparation required: Third-year mechanics and definite integration. Text-book, Merriman's Treatise on Hydraulics.

38. **Mechanical Drawing VII.** Fourth year, spring term. A continuation of the previous term's work.

39. **Engineering Laboratory III.** Fourth year, spring term. A continuation of the previous term's work, including tests on the strength of materials and tests on gas-engines. Preparation required: Applied mechanics I and thermodynamics I.

40. Thesis. Fourth year, winter and spring terms. Engineering students are required to present for graduation a suitable thesis on some subject relating to their work. It is expected that the work done on the thesis will be equivalent to at least five hours per week during the winter term and ten hours per week during the spring term.

EQUIPMENT.

The shops of the Kansas State Agricultural College are furnished with the best modern machinery and tools for working both wood and iron, and are in operation six days per week throughout the year.

Wood Shop.—This wood-working room is 40x103 feet, contains 220 separate kits of tools, and benches for forty-four students in each class, eight wood lathes, with sixteen sets of turning chisels and other tools, wood planer, circular saw, friezer, power mortising machine, grinders, and tool room containing all kinds of wood-working tools for general use, together with complete outfit of wheelwright's tools.

Machine-shop.—This room is 40x80 feet, contains twelve fourteen-inch engine lathes, one twenty-eight-inch by twenty-foot engine-lathe equipped with blocks to raise it to sixty inch swing, one sixteen-inch combination engine- and turret-lathe, speed-lathe, Gray planer, Hendey-Norton shaper, Brown & Sharpe No. 2 universal milling-machine, Walker universal grinder, special drill-grinder, key-seater, bolt-cutter, pipe-machine, vertical drills, fifty-one-inch vertical turning- and boring-mill, benches and tools for fifty students, and a completely stocked tool-room, equipped with the finest modern tools.

Blacksmith Shop.—This room is 40x50 feet, equipped with twenty-four forges fitted with power exhaust. Each forge has anvil and complete set of smithing tools. In addition to the general tools for a fully equipped blacksmith shop, there are also installed here a drill-press, emery-grinders, cold saws, and a number of pieces of special apparatus built by the department.

Iron Foundry.—This room is 40x50 feet, equipped with a two-ton cupola, a one-and-one-half-ton steel crane, core oven, an exceptionally large number of flasks, both wood and iron, ladles, etc. The foundry makes all castings for machine building, together with boiler fronts, grate-bars, and special repair work.

Brass Foundry.—This room is 16x30 feet, with furnace, crucibles, flasks, and a complete equipment for bench and floor molding. The product consists of bearings, friction metal, valves, fittings, etc.

Pipe-fitting Room.—This room is 18x50 feet, containing a motor-driven Jarecki pipe-machine, and is completely equipped with tools used by steam-fitters. Practice in pipe-fitting and steam-fitting is given. This room is also used for storing patterns, of which the College has a large and valuable collection.

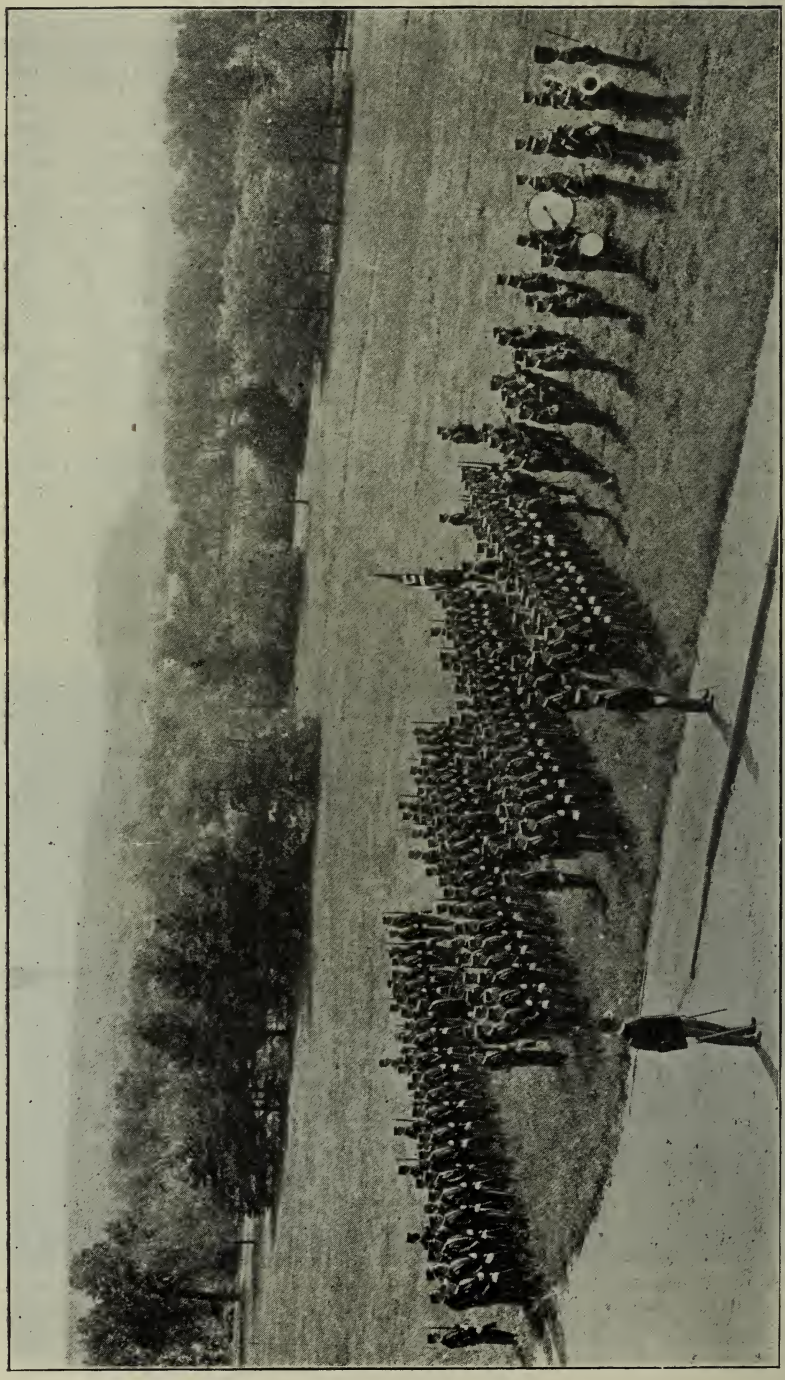
Engineering Laboratory.—This room is 35x40 feet, and contains a great variety of apparatus, among which may be specified a 100,000-pound testing-machine, both automatic and autographic; an eight-horse-power vertical steam-engine; an eight-by-eight Ingersoll-Sargeant air-compressor; a six horse-power Sturtevant engine, used as an air motor; a ten-horse power Witte gasoline-engine; a six horse-power Dempster gasoline-engine; complete cement-testing outfit; absorption and transmission dynamometers; steam- and gas-engine indicators, gage-testing apparatus, and a variety of special machines for the testing of materia'; also, thermometers, calorimeters, speed indicators, etc. The very complete boiler- and engine-rooms adjoining the laboratory afford special opportunities for the work relating to steam engineering. Yards and sheds have been provided for carrying on tests that cannot be made in the laboratory. The de-

partment has a twenty-horse-power Avery traction-engine that is fitted up to run boiler, engine, and traction tests. There has recently been installed a Miles concrete-block machine. The cement blocks made in this machine will be tested under various conditions of mixture, age, etc. Tests will also be made to determine the effect of fire on building blocks.

Power Plant.—The boiler room contains five sixty-horse power horizontal, return-flue boilers, three 100-horse-power boilers, pumps, steam-traps, etc. These boilers are used for the generation of steam, both for power and heating purposes, and are independently connected, that they may be tested individually or in groups. The engine-room is equipped with one 100 horse power, medium speed engine, directly connected to a 60 K. W. multipolar generator, with marble switch-board and complete apparatus; one fifty-horse-power Ball & Wood engine, belted to bipolar generator, with switch-board; one ten-horse-power Atlas engine; one five-horse-power generator, built in the shops, for testing purposes; one Shipman coal-oil engine, and several small dynamos for testing purposes. In connection with the power plant is a very complete rope-driven installation, especially designed for the department.

Drawing-rooms.—On the second floor of the wood-working department are found the drawing rooms, photographic rooms, and paint and varnish rooms.

MAIN ENTRANCE.



COLLEGE BATTALION.

Military Training.

This institution being one of the beneficiaries of the act of Congress of 1862, instruction in military tactics is made compulsory. The course of instruction is made to conform strictly to the provisions of General Orders No. 65, War Department, 1904, as amended by General Orders No. 57, War Department, 1905.

In compliance with the minimum requirements of that order, the course will be both practical and theoretical, and applied as follows:

a.—Practical.

1.—Infantry drill regulations, through the school of the battalion, in close and extented order.
2.—Advance- and rear-guards and outposts.
3—Marches.
4.—The ceremonies of battalion review, inspection, parades, guard-mounting, and escort of the colors.
5.—Infantry target practice.
6—Instruction on first aid to the injured.

b.—Theoretical.

1.—The infantry drill regulations, covered by the practical instruction.
2.—The manual of guard duty.
3.—Small-arms firing regulations, parts I, II, and III.
4.—The Articles of War, with specific reference to articles 4, 8, 15, 20, 21, 22, 23, 24, 32, 38, 39, 40, 42, 44, 46, 47, 50, 55, 57, 61, and 65.
5.—And the following records:

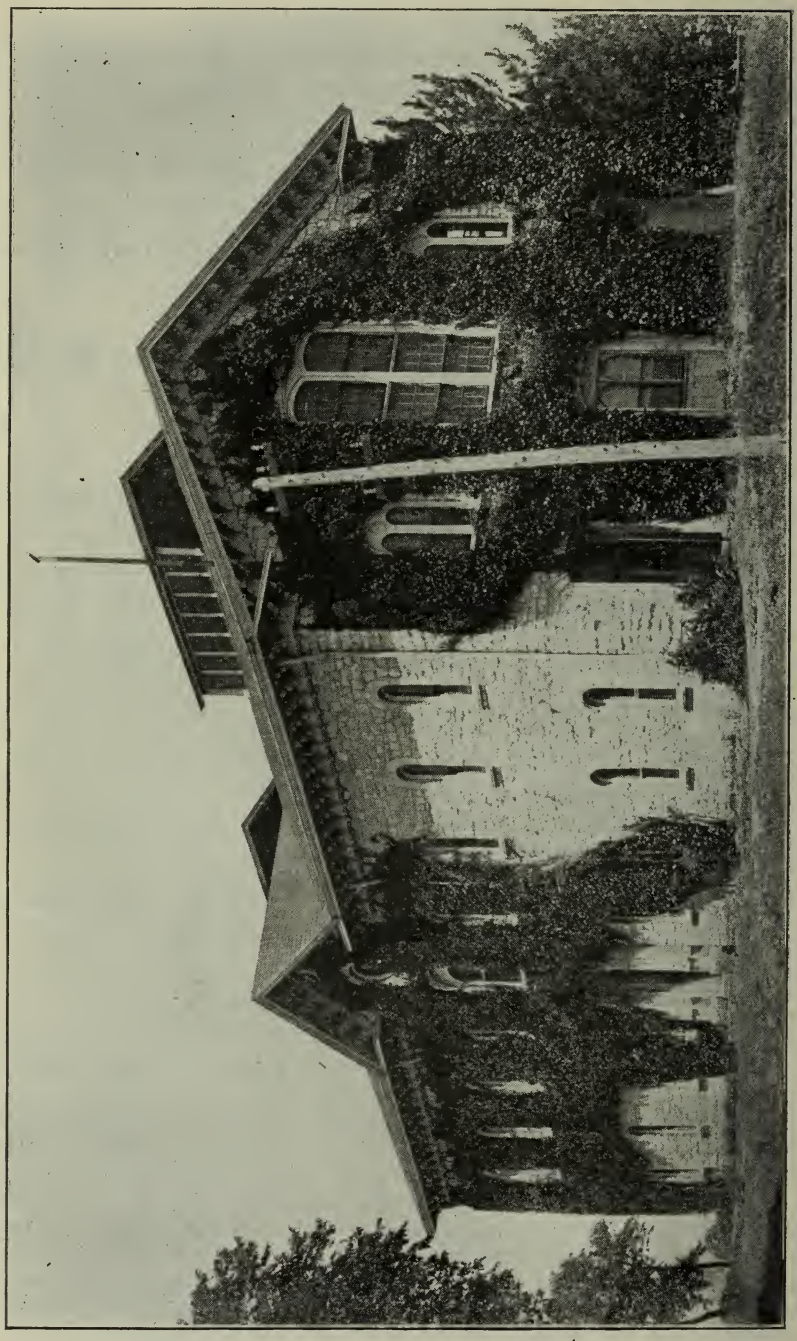
Enlistment and discharge papers, including descriptive lists.
Morning reports.
Field and monthly returns.
Muster-rolls.
Rosters.
Ration returns.
Requisitions.
Property returns.

And a lecture course, as follows:

Two lectures on the oganization of the United States army, including volunteers and militia.
One lecture on patrols and outposts.
One lecture on marches.
At least one lecture on camps and camp hygiene.
Three lectures on lines and bases of operations.
Two lectures on the attack and defense of advance- and rear-guards and outposts, and convoys.

All of the foregoing to be illustrated by historical examples. These lectures are to be made the basis of subsequent recitations and of written examinations.

The national government has supplied the College with 395 cadet rifles and an equal number of sets of infantry accouterments; also two three-inch field-guns and carriages. Swords, target supplies and annual issues of ball and blank cartridges are also received from the general government. Each student buys his own suit, to be worn at all drills. The following is a description of the suit: "This suit to consist of regulation blue cap, with College emblem; blue blouse, cut and trimmed in officers' style, trimmed with black mohair braid one and one-half inches wide; gray trousers, trimmed with black mohair braid."



ARMORY.

War Department Record. At the close of the year the names of the three cadets most distinguished in military science and tactics are reported to the War Department for insertion in the United States army register, and also to the adjutant general of the state.

Organization. Cadets are organized into a battalion of infantry and a band, the drill and administration of which shall conform to that of the United States army. Officers and non-commissioned officers are selected by the professor of military science and tactics, with the approval of the President, according to the principles governing such selection at the United States Military Academy, and receive commissions and warrants from the President of the College.

Discipline. Each cadet is furnished with a copy of the cadet regulations governing the military department, approved by the Board of Regents, and is required to familiarize himself with them and to conform strictly to their requirements.

Band. Assignments to the band are made by the professor of military science and tactics, on the recommendation of the professor of music, who is charged with the technical instruction. Practice in the band is accredited, through the military department, in lieu of drill and theoretical instruction, subject to the provisions of the cadet regulations, with which strict conformity is required.

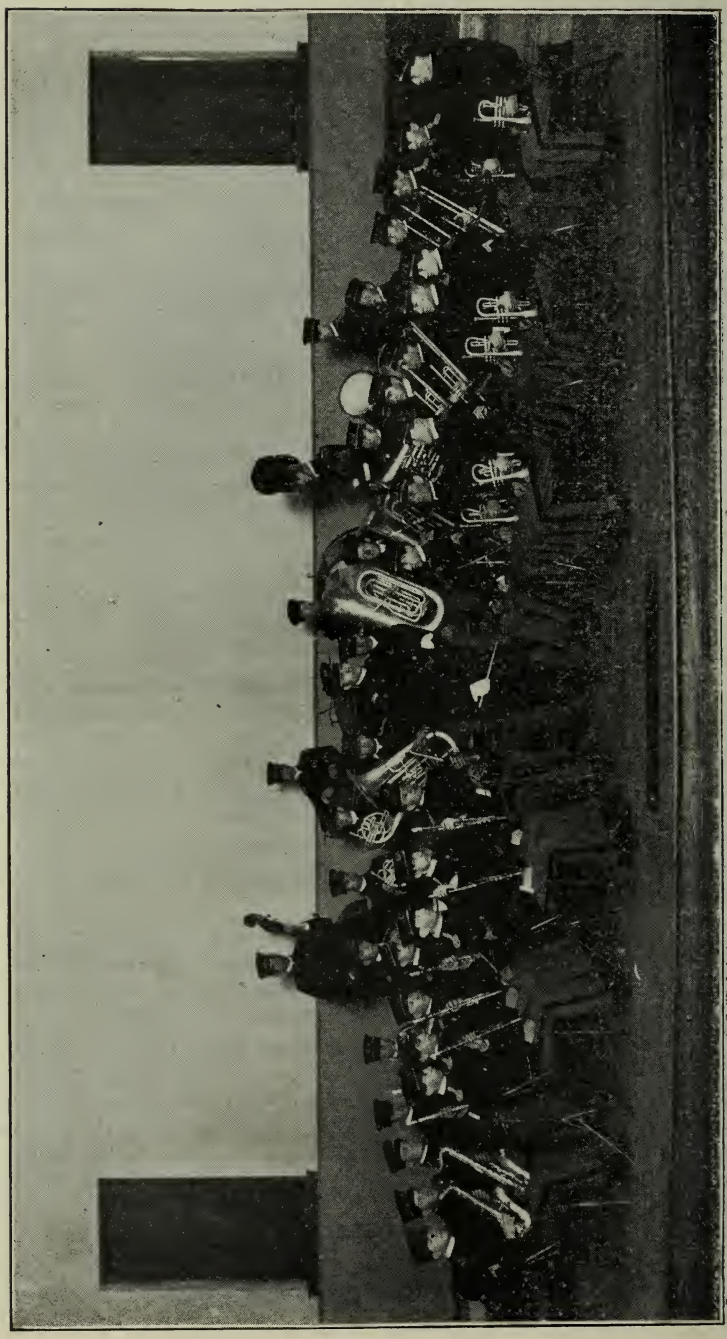
The purpose of the cadet band is to foster and encourage among the cadets a love for patriotic national airs and martial music. With this end in view, the band is subject to the orders of the professor of military science and tactics for instruction and discipline.

Requirements. All young men are required to satisfactorily complete six terms' work before graduation, unless excused for physical disability. Drill periods scheduled in the course of study refer to full hours of sixty minutes each. Additional work is optional with juniors and seniors, who are given preference for appointment as officers. A junior or senior having enrolled optionally and accepted a commission is required to continue the work throughout the college year, subject to the same regulations as other cadets.

Uniform. The uniform is simple and inexpensive, and makes a good suit for regular wear. All students will be required to present themselves in uniform within ten days after assignment.

Text-books.—Each military student will be required to provide himself with the following text-books: United States Drill Regulations (latest edition), The Manual of Guard Duty (latest edition), Small-arms Firing Regulations (latest edition), Tutherly's Military Science (latest edition).

The instruction in keeping records will be from blank books, to be provided by the War Department. The articles of war specifically mentioned are among the most important for the young officer to know on first entering the service. The records prescribed for study should be thoroughly understood by all graduating cadets, because they show how the soldier enters and leaves the service, how he is accounted for, paid, fed, clothed, armed, and how his military duties are regulated.



COLLEGE BAND.

Music.

Recognizing music as a factor in education which is practical and elevating, and believing that the germ of artistic faculty exists in every normal person, the following generous provisions have been made for its introduction into the several courses:

Pupils may take music for a single term or more. A full course, extending over four years, includes theory, notation, singing, voice culture, harmony, composition, instrumentation, and technical drill on one or more instruments. The College pianos and organs (limited in number) are used for daily practice by pupils who takes music as an industrial.

Instruction in music is furnished free, under the direction of the professor in charge, to all pupils in the College, as follows:

1. **Singing, Notation, and Theory.** Classes will be organized at such periods as will best accommodate the pupils interested.

2. **Instrumental Music, Musical Theory, and Harmony.** Classes will be organized, for pupils in the regular courses, at such periods as will best accommodate them, under the following conditions:

a. **Optional.** All music is optional—is taken at the choice of the student—but after assignment regular attendance is required, as at other classes. Class organization shall be wholly under the control of the professor of music.

b **Musical Organizations.** Each instrument has a distinct function in the science of tonal expression, and only in their combination are the finest effects in the coloring of the melody, harmony and rhythm procured. This combination is made posssible in the musical department by the number of pupils and the variety of instruments studied. All students who are sufficiently advanced to join the College choral union, College glee club, College orchestra, elementary band, or the College band, may become members by assignment.

c. **College Band.** Assignments are made for the entire year, and membership requires regular attendance until after commencement exercises.

d. **Public Exercises.** Music for commencement week and other public College exercises is furnished by the musical department, under the direction of the professor in charge, and all students in the department shall be subject to his call to assist in furnishing the same.

e. **Annual Concert.** An annual concert will be given on the second Thursday in March.

Uniforms. Members of the College band are required to present themselves in uniform, which is inexpensive, within ten days after assignment. The following is a description of the uniform: This suit to consist of the new regulation musician's cap, with embroidered ornament, wreath, and lyre; blue blouse, cut and trimmed in officer's style, lyre one inch high on collar, with shoulder knots; gray trousers, trimmed with red stripes.

COURSES OFFERED.

The Voice. In the study of this instrument, the most natural and universal means of musical expression, notation is taught in connection with the establishment of a pure tone, in which there shall be resonance, volume, flexibility, and expression. The instruction will include the rudiments of music, notation, sight-reading, ear-training, theory, harmony, voice culture, methods of teaching, practice in teaching, and drill in solo, quartet and chorus singing. Texts: Ran-

degger's Singing; select studies from Concone, Vaccai, Bordogni, Marchesi, Emery's Elements of Harmony, Weitzman's Theory, and other standard works.

The Piano. In the study of this instrument, which occupies a place of so much dignity and importance in every musical education, great attention is given to every detail of technique and to the development of a correct touch, which is so necessary in giving intelligent expression to musical thought and feeling. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. The curriculum is chosen from the works of the standard composers, not omitting modern European and American writers, who best represent the modern spirit and progress. The following outline of a course of study, made with reference to the musical value of the selections, as well as to the special necessities of the pupils, may be followed or varied by the professor in charge. Text, selections from the following works or their equivalents: Studies in position and touch—Plaidy, Czerny, Koehler, Mathew's Standard Studies; Mason's Touch and Technic; sonatinas by Clementi; modern pieces. Studies in the development of technique from Heller, Loeschorn, Lemoine; sonatinas by Kuhlau; Mason's Touch and Technic; Cramer's Studies; inventions by Bach; Kullak's Preparatory Octave School; etudes by Moscheles; sonatas by Mozart; Beethoven; modern pieces; Kullak's Octave School; Tausig's Daily Studies; Bach's Preludes and Fugues; concert pieces by Liszt; Schumann. Memorizing.

The Cabinet and Pedal Organ. The cabinet organ has a field of its own, and should have appropriate treatment, in many respects different from the piano. When properly played it is of much value in church and social circles. It is here taught so as to be preparatory to the pedal and pipe-organ. Text, standard schools. Selected studies and pedal studies, chorals, hymns, and recreations suitable to the instrument.

The Violin. Particular attention is given to correct position, intonation, and bowing; also to solo and orchestral playing. Text, selections from the following works or their equivalents: Methods by Wichtl, Henning, and De Beriot; exercises by Danca, Pleyel, Schradick, Kayser, David, and easy solos; etudes of Kreutzer; solos by De Beriot, Leonard, Dancla, Singelee; modern pieces. Memorizing.

Orchestral and Band Instruments. Similar courses of instruction are given on all the more important orchestral and band instruments—string; wood, wind, and bass; also mandolin and guitar. Opportunities are also furnished advanced pupils for orchestral, band, quartet and accompaniment playing. Text, selections from the standard methods; studies and recreations suitable to the instrument.

Musical Theory, Composition, Instrumentation, and History of Music. The aim of these courses is to give the pupil an intelligent conception of music as a science and an art, and to lay a foundation for later studies which he may undertake in the field of artistic performance and original work in musical composition. The instruction given includes theory, notation, harmony, counterpoint, composition, instrumentation, analysis of form and style, and musical history. Texts: Elson's Theory of Music, Brown's Prismatic Charts, Berlioz's Orchestration, Marx's Composition, Prout's Instrumentation, Mathew's History of Music.

Philosophy.

To be able to grapple most advantageously with the serious problems of life, one must have an intimate acquaintance with himself. To be able to become a valuable member of society, he must know how to develop and use his mental powers judiciously. Too many people are inclined to regard their mental activities as a sort of fixed inheritance, with little or no possibility of readjustment. It is the aim of this department to interest the student in a more careful study of the mental phases of human life, and to aid him in a more definite and systematic knowledge of the meaning of his own concrete experiences.

The several subjects are offered, as follows: No. 1 is required in all courses; No. 2, in the general science course; and No. 3, in domestic science and general science courses.

1. **Elementary Psychology.** First year, winter term. This course is intended to give the student (*a*) a general idea of the meaning of psychology, and (*b*) a better method of expending his time and energies in the pursuit of college work. Not less than ten lectures will be given, as follows: (1) Neural basis of mind, (2) perception, (3) imagination, (4) memory, (5) habit, (6) thinking, (7) the emotions, (8) the will, (9) self-confidence, (10) methods of study and work. No text-book used.

2. **Logic.** Fourth year, fall term. While formal or deductive logic is studied briefly, the greatest emphasis is placed upon the inductive phase of the subject. Special prominence is given to methods of exact observation and experiment and correct principles of classification. The previous researches and experiences of the students are made to illustrate these principles. Some of the ends sought are: (1) To enable the student to think more clearly and to express his thoughts more lucidly; (2) to enable him more readily to detect the erroneous statements of others, whether made by design or through ignorance; (3) to imbue himself more fully with the scientific spirit, which is the guiding principle of human progress to-day; (4) to lead him into habits of systematic, scientific methods of work in whatever vocation he may follow during later life. Text-book, Creighton.

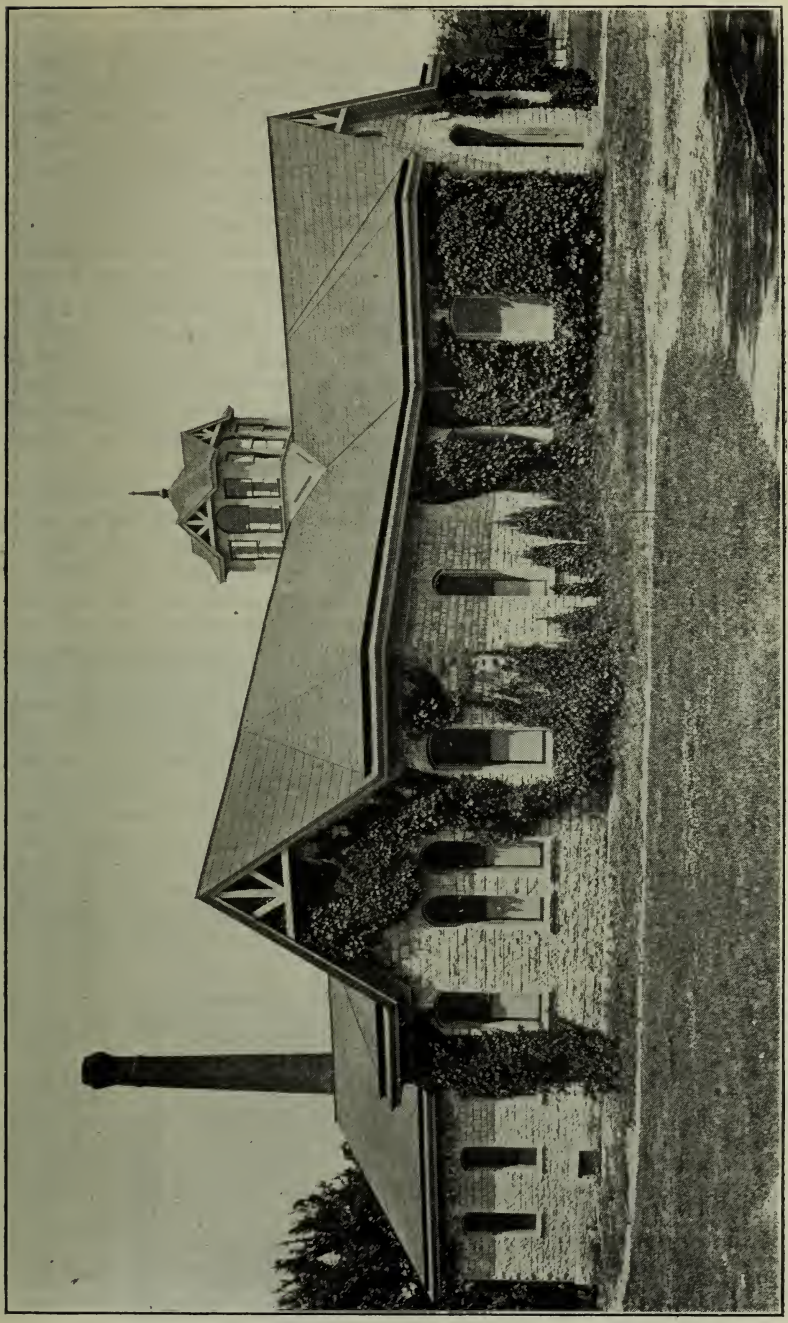
3. **Psychology.** Fourth year, winter or spring term. An effort is made to master the general principles of the subject, the various mental processes being analyzed and explained. Some attention is also given to theories of right and wrong and correct principles of action. Considerable time is given to the discussion of mental poise, self-control, emotional expression, the influence of the mind on the body, and the like. Special effort is made to enable the student to get the psychologic point of view, to the end that he may obtain a better understanding of himself and of human nature in general. He will then think of others in terms of mental conduct rather than in terms of physical conduct; and, having been made more fully aware of the obstacles that confront every earnest soul, he will become more sympathetic. Finally, as a result of systematic mental discipline, the student may expect to meet with greater success in his chosen vocation. Some simple experiments are performed, and each member of the class is given a topic for special research. Text-book, James.

ELECTIVES.

4. **Ethics.** In this brief course the aim will be: (1) To make a brief historical review of the several types of ethical theory; (2) to examine more critically the two great tendencies of the subject, viz., the hedonistic and the idealistic; (3) to arrive finally, if possible, at a working ideal on the subject of moral conduct.

5. **Pedagogy.** It has been found that a considerable number of the graduates of this College become public-school teachers. An act of the legislature grants to such graduates a three year state certificate, renewable for life, provided they pass an examination in the so-called professional branches. These are given, as follows: History of education and school law, fall term; philosophy of education, winter term; methods and management, spring term.

PHYSICAL TRAINING SUIT.



WOMEM'S GYMNASIUM.

Physical Training.

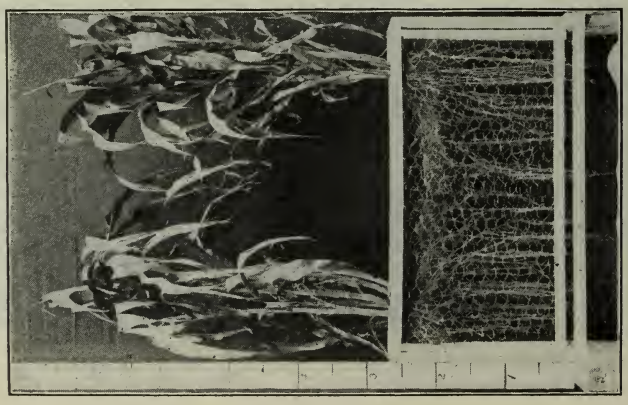
The maintenance of robust health and a good constitution should be one of the chief aims of every girl. It is impossible to cultivate the body without benefit to the mind; likewise, in order to cultivate the mind properly one should learn to care for the body. With this end in view a gymnasium for women has been provided. It is well equipped with apparatus, shower-baths, lockers, etc., and a well-regulated system of physical training is in successful operation.

The German system of educational gymnastics is used as the basis of the work, while other systems are used in connection with it. Corrective and medical gymnastics are given to such as need them. The primary object of the work is to promote health, strength and symmetry of the body and to correct physical defects.

Daily classes are held in light gymnastics—free standing work, marching, fancy steps, drills with dumb-bells, wands, and Indian clubs, with musical ac companiment; heavy gymnastics, including horse, parallel bars, chest weights, flying ring, ladder, stall bars, climbing ropes, and horizontal bar. Gymnastic games, including tennis and basket ball, are taught to those who care to learn. When the weather permits, exercises are taken in the open air.

All young women of the College have access to the privileges of the gymnasium, while those below the third year must elect physical training or music. Before entering upon the work, a physical examination is made by the director. The examination includes measurements of physical proportions, and takes note of the condition of the heart and lungs. From this examination an anthropometric chart is platted, showing size, strength, and development, and defects in comparison with the normal standard. Frequent measurements are taken and comparisons made to show effects of training.

A uniform suit has been adopted, which all the girls taking gymnasium work are required to provide themselves with. This should be done before entering school. The suit is black, and consists of a blouse waist and bloomers, and must be made in the uniform style, color, and cloth. The pattern for the suit may be obtained by sending twenty-five cents and bust measure to the director of physical training. Samples of cloth will be sent on application. Gymnasium shoes may be purchased at prices ranging from fifty cents to one dollar and thirty-five cents. The entire suit, including shoes, need not cost more than three dollars. Those who are unable to provide themselves with suits before entering school may hire them made in Manhattan, at a cost of one dollar and fifty cents.



CORN ROOTS 60 DAYS AFTER PLANTING.

Physics and Electrical Engineering.

In the following courses instruction is given by text books, lectures, and laboratory work. The treatment is both theoretical and practical. Recitations and lectures are illustrated by means of apparatus and the projection lantern. The purpose of the general course in physics is to lay a thorough foundation in the fundamental principles of physical science and in the theory and practice of precise measurement. The physical laboratories are large, well lighted, and equipped with the necessary apparatus for both the elementary and advanced laboratory courses.

The course in electrical engineering is designed to provide the necessary preparation for young men who desire to engage in the practical work of electrical engineering. The theoretical work begins in the third year, with course No. 3 in physics. An extended course in laboratory work is given, covering the subject of electrical measurements, and prepares for the work of the fourth year in the dynamo laboratory. The electrical and dynamo laboratories are well equipped with high-grade apparatus and machinery, and afford every opportunity for a thorough preparation for practical work in electrical engineering.

Of the studies described, No. 1 is required in all courses; Nos. 4 and 5, in the general science and agriculture courses; Nos. 2 and 3, in the mechanical engineering course; Nos. 2, 3, 6, 7, 8, 9, 10, and 11, in the electrical engineering course.

ELECTRICAL ENGINEERING LABORATORY.

1. **Elementary Physics.** First year, spring term. The work is intended to give the student a general view of the subject, with such laws and principles as will be useful in scientific study, and includes the most important principles of mechanics, heat, sound, light, and electricity. Text-book, Henderson and Woodhull.

Laboratory.—In this work the importance of accurate observation and conclusions is emphasized. In the laboratory the exercises will consist of measurements with calipers, balances, spherometers, micrometer-microscope, pendulum, and other instruments of like nature. Careful records of experimental work are required.

2. **Physics I.** Third year, fall term. During the term's work the general principles of heat and sound are treated, and the most approved methods for the measurement of each will be discussed and illustrated. The derivation of laws and formulæ, including the solution of problems involving these laws, will be required. Text-book, Watson.

Laboratory.—Experiments with the principal instruments used in exact measurement. The work is intended to give the student skill in the manipulation of instruments, in the interpretation and reduction of results, and in the use of data in curve-tracing.

3. **Physics II.** Third year, winter term. The first half of the term is devoted to the subject of light. In this subject it is the purpose to develop the modern theory of light and its special application to refined physical measurements. The last half of the term is devoted to the subject of electricity. The fundamental laws of current, resistance and potential are developed, and the various methods and instruments by which they are measured and discussed. Use and care of batteries, electric wiring for lighting, telephone and bell circuits, wire inspection according to underwriters' rules.

ADVANCED PHYSICS LABORATORY.

ELEMENTARY PHYSICS LABORATORY.

Laboratory.—This work is designed to give the practical application of the laws of optics, the use and adjustment of surveying instruments and telescopes, lens testing, spectrometry. In electrical measurements, it consists of the measurement of resistance and current and the calibration of instruments. Every opportunity is given to become familiar with the electric current and the proper use and care of electrical instruments.

4. **Physics III.** Third year, winter term; and fourth year, fall term. A thorough study of the laws of forces and motion. Composition of forces and velocities by graphic and trigonometic solutions. Nature of sound; its wave motion and velocity; the factors that will change the velocity, and the phenomena produced by its reflection. Thermometry, calorimetry, the laws of radiation, and the absorption of heat. Text-book, Hastings and Beach.

Laboratory.—This work will be of such nature as to give students an opportunity to make experimental tests of the laws in the subjects discussed in the classroom.

5. **Physics IV.** Third year, spring term; and fourth year, winter term. Electricity, magnetism, and light. This course is intended to give the student a historical review of the development of electricity and magnetism. The methods of measuring current and resistance will be discussed and illustrated. The solution of problems involving the laws derived in the classroom is required. Nature of light; laws of reflection and refraction. Construction of images in plane, concave and convex mirrors. Diffraction and interference. Text-book, Hastings and Beach.

Laboratory.—This work will include measurement of resistance, current, and potential; electrolysis, magnifying power of lenses, focal lengths, photometry, etc.

6. **Theory of Electricity.** Third year, spring term. Physics is begun in the fall term. The following subjects are treated: Current electricity, potential, resistance, quantity, theory of electrical measurements, induction, hysteresis, use of condensers, electrochemistry, elementary principles of the dynamo and motor, the ballistic galvanometer, Carey-Foster bridge, the various methods for the measurements of high resistances, calibration of commercial voltmeters and ammeters, the storage battery, etc. This course is, in many respects, the most important for the engineer, as it prepares the way for the more-advanced work of the fourth year and affords every opportunity for exact measurement and mathematical treatment. Text-book, S. P. Thompson's Elementary Lessons in Electricity and Magnetism.

Laboratory.— It is the purpose of the laboratory course to continue the work of the classroom in the practical application of the principles and methods developed, the experiments being arranged to follow closely the theoretical development of the subject. The experiments include the measurement of current, potential, resistance, quantity, hysteresis, cable-testing, calibration of instruments, photometric tests of arc and incandescent lamps, use of Carey-Foster bridge, battery tests, etc. Especial emphasis is laid on curve drawing and the interpretation of laboratory results. A number of reference books are used in this course.

7. **Direct-current Machinery.** Fourth year, fall and first half of winter terms. A continuation of the course in theory of electricity, including a detailed study of the principles of direct-current machinery, laws of magnetic circuits, the various types of machines and their characteristics, a study of efficiency and regulation, elements of design, the various methods of connecting for output and regulation, management, care and installation of machines. Text-book, Jackson's Electromagnetism and Construction of Dynamos.

Laboratory.—This course is designed to give familiarity with modern station practice. The laboratory is well equipped with one or more standard types of motors, dynamos, rotary converters, transformers, alternators, constant current transformers, arc and incandescent lamps, and the necessary alternating and direct-current measuring instruments. An extended study is made of direct-current machines and auxiliaries, curve plotting, tracing of E. M. F. and current curves of the various types of machines, photometric measurements of arc and incandescent lamps, various methods of determining efficiencies of motors and dynamos, machine characteristics, regulation, etc. The College and local plants offer additional opportunities for practical work. Courses of reading along the different lines of study are required.

8. **Alternating-current Machinery.** Fourth year, last half of winter and spring terms. The theory of alternating currents, the production of alternating electromotive forces, impedence, capacity and inductance in alternating-current circuits, measurement of power, the calculation of currents in reactive circuits, polyphase generators, induction motors, starting devices, transformers, etc. Text-book, Sheldon and Mason's Alternating-current Machines.

Laboratory.—Attention is given in this course to the work of testing transformers, alternators, rotary converters, induction motors, enclosed alternating arcs, and the various subjects taken up in classroom discussion.

9. **Dynamo Design.** Fourth year, winter term. In this course each student is required to make the necessary calculations and working-drawings of such parts or mechanisms of electric machinery as may be assigned to him; the work to be based upon classroom discussions.

10. **Power Stations.** Fourth year, spring term. The work in this course is based on Bell's Power Transmission, supplemented by lectures and inspection visits. The treatment includes discussion of station design, methods of power transmission, electric traction, systems of distribution, station management, etc. Text-book, Bell's Power Transmission.

11. **Electrochemistry.** Fourth year, fall term. This course will consist chiefly of a study of the processes employed in electro-metallurgy and the electro-chemical industries, the production of electrolytic copper, carborundum, etc. Such experimental work will be provided as the equipment of the laboratory will permit.

12. **Advanced Course in Physics.** Work in advance of the courses required of undergraduates will be offered to students who have completed the work in courses 1, 2, and 3, or the equivalent. The work will be largely of an experimental nature, with collateral reading and lecture work. While the student will work more or less independently, the course will be outlined and will be checked by the instructor in charge. Advanced problems in mechanics, heat, light and electricity will be taken up, and every opportunity offered to acquaint the student with the use of standard instruments in physical measurements. The course is especially adapted to accompany work in advanced chemistry, mathematics, or the needs of those intending to teach physics.

ADVANCED PHYSICS LECTURE ROOM.

Preparatory Department.

Inasmuch as many students seek admission to the College with inadequate preparation in one or more of the subjects required for entrance, it has been found necessary to establish a preparatory department, in which such deficiencies can be remedied. Instruction is given in all studies required for admission to the College. See "Terms of Admission."

1. **Arithmetic.** Instruction is given in the principles that underlie the various classes of problems, thus teaching the student to rely upon himself, not upon rules. Text, state book.

2. **Algebra I.** This includes the fundamental operations, factoring, highest common divisor, lowest common multiple, and fractions. State text.

3. **Algebra II.** Simple equations, involution, evolution, theory of exponents, and radicals as far as the subject of quadratic equations.

4. **Algebra III.** Quadratic equations, ratio and proportion, arithmetical and geometrical progressions.

5. **Bookkeeping.** This is not an extended course, but sufficient instruction is given to enable the individual to open and close accounts in ordinary business transactions. State text.

6. **English Grammar.** The aim is to lay a good foundation for the further study of English. Recognizing the fact that grammatical drill develops in students logical habits of thought, besides giving them greater command of language, special attention is given to the analysis and construction of sentences and to the principles of elementary composition. Two classes are formed each term, the B class completing the work in two terms; the A class in one term. Text, Longmans.

7. **Advanced Grammar.** One term. A review of the principles of grammar as preliminary to the College requirements in English. Practice in grammatical analysis of difficult sentences and of extended passages of literature. Also a study of the etymology of derivative words, of synonyms, of the uses of words, and of the principles of sentence structure, with practical exercises in word analysis.

8. **English Readings.** As a prerequisite to admission to the College classes in English, a careful study is made of a number of standard productions of first-class interest and easy style. Sketches of authors, both oral and written, character sketches, abstracts, outlines and analyses of every production are required. As these productions are mostly read and discussed in class, opportunity is afforded for considerable valuable training in pronunciation and effective reading.

List of Readings.—Shakspere's Julius Cæsar; Irving's Sketch Book; Burns's Representative Poems; Tennyson's Idylls of the King; George Eliot's Silas Marner; Matthew Arnold's Sohrab and Rustum; Shakspere's Macbeth.

9. **English Composition.** One term. The work is based on Smith and Thomas's Composition and Rhetoric. The text is completed to chapter XIII, with the addition of chapter XIX and the appendix, special attention being given to the study of usage and diction. The object of the work of this term is to give the student a knowledge of the elementary principles of composition, to improve his vocabulary, and to help him overcome the fear of expressing himself in writing. To this end he is encouraged to choose subjects that spring from his own experience or observation, and is required to present one theme each week, which, after being read before the class, receives corrections from the instructor in charge.

10. **United States History.** The leading facts, causes and sequences showing the growth of our country and national history are studied with a view to develop true patriotism. Text, McLaughlin.

11. **Ancient History.** This course is introduced by a brief study of Egypt, the Hebrews, and other oriental nations. The history of Greece is followed from its prehistoric conditions to its conquest by Rome, 146 B. C. The Persian and Peloponnesian wars must be studied, but the emphasis is laid rather on the life and government of the people in their city-states, on the age of Pericles, and the art, literature and philosophy of the Greeks. Alexander the Great is studied, not so much for his military achievements, but rather as the disseminator of Greek civilization. The last half of the term is devoted to Roman history. The growth of the nation is followed, from the founding of the city till the great republic surrounded the Mediterranean and embraced practically all of the known world. The story of the Punic wars is, of course, included. The Romanizing of Europe; the reason for the change from republic to empire, and the method of its accomplishment; Rome's contribution to civilization, such as her roads and her laws; the origin of the Christian church; the Augustan age, and the lasting impression that five hundred years of world empire made on mankind are among the points emphasized. An attempt is made to acquire some familiarity with the great personages, such as Pericles and Cæsar, who played their part in the ancient world. Text, Myers's Ancient History, edition of 1904.

12. **The Middle Ages.** This course begins with the fall of Rome and the migration of the Teutonic tribes, thus discovering the very beginnings of the present European nationalities and languages. The work of Charlemagne; feudalism; the Christian church and monasticism; Mohammedanism; the achievements of the Northmen; the hundred years' war; the crusades; the formation of modern governments; the Italian cities, and the renaissance, are among the subjects studied. Special emphasis is given to the history of England and the rise and power of the medieval church. Text, Myers's The Middle Ages, revised edition.

13. **Physiology.** This is elementary work, intended to prepare students for the more advanced work given in second year of the agriculture, domestic science and general science courses. As far as possible, models, skeletons and dissecting material are made use of in the classroom. Martin's Elementary Physiology is used as a text.

14. **Geography.** Because of recent history, special attention is paid to the geography of the United States, its possessions, products, resources, methods of transportation, etc. Text, state book.

15. **Physical Geography.** Two terms. This subject considers the conformation of the earth's surface, the distribution of land and water, minerals, plants, animals, productions, the atmosphere and the ocean with reference to man's physical environment. These features are presented so as to show in what manner they affect man's way of living and how nature has guided in the development of mankind. State text.

16. **Botany.** The object of the course is to acquaint the young student with the primary essential facts in the life and growth of plants; to enable him to see how plants work and live, and upon what things, in the external world, they depend. As much knowledge of plant structure is required as will render the working processes clear. Practical studies are followed out in such problems as germination and growth, in the uses of the different plant organs, in respiration, transpiration, carbon-assimilation, storage and transport of food, building up of

tissue, etc. The effects are studied of unfavorable conditions, such as drought freezing, lack of sunlight, etc. The different ways in which plants increase are examined, and the manner in which they struggle for possession of the soil. In general, in this course, the seed plants are chiefly employed for illustration and experiment, but the other great groups are freely drawn upon, and the general way in which the different groups are related to one another is shown in an elementary manner. Text-book to be selected.

17. **Other Branches of Study.** Instruction is also given in spelling, reading, and writing.

JAYHAWKER STAFF.

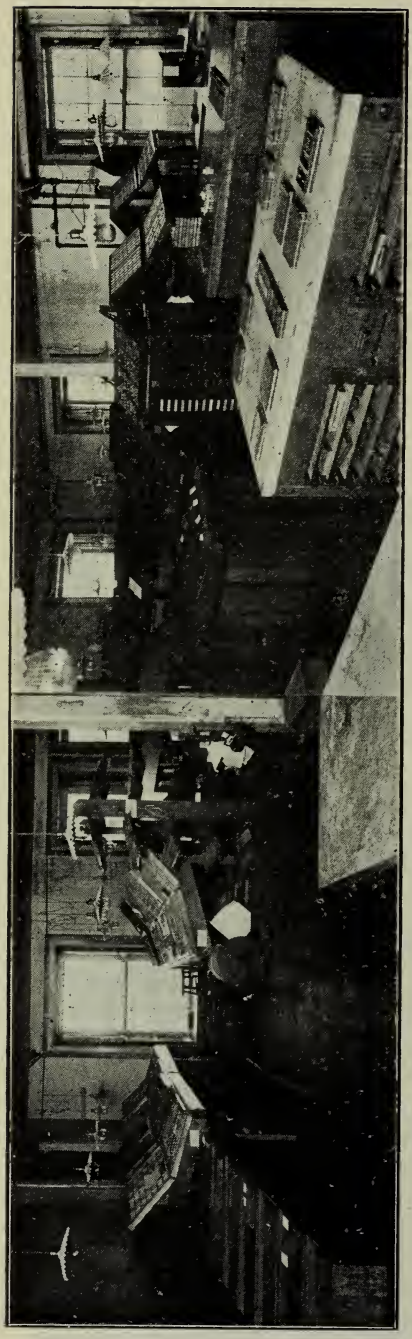
Printing.

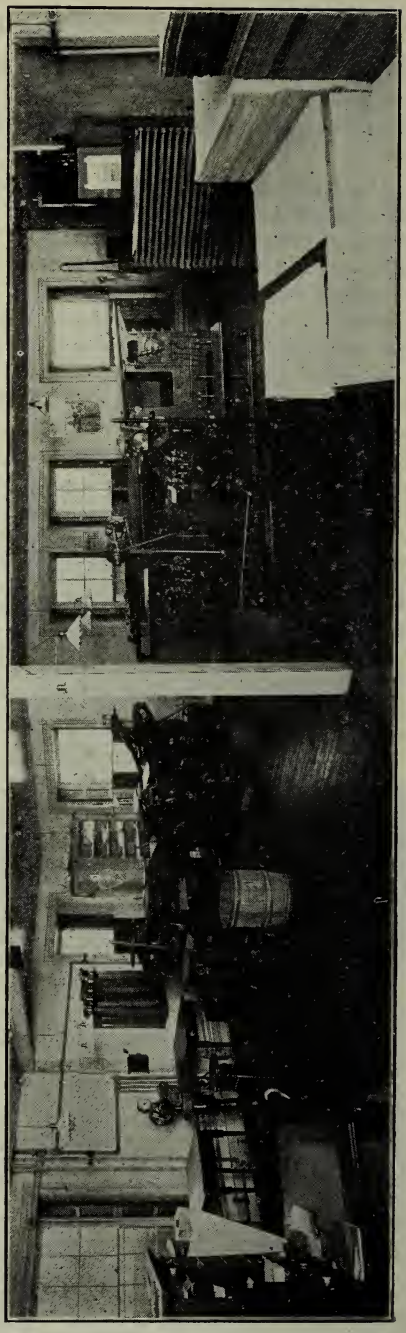
The printing department, in the main building, occupies six large rooms, viz : Superintendent's office, composing-room, pressroom, folding-room or bindery, mailing-room, and storeroom—all well lighted, amply ventilated, and heated by steam.

1. **Instruction.** The lessons embraced may be briefly summarized under these suggestive topics: The elements of news, book and job composition and imposition; proof-reading and correcting; plain and color presswork; embossing; adaptation of various grades of inks and papers; newspaper and magazine folding; mailing; tableting of stationery; and pamphlet stitching and stapling. The instruction is of that character in which individual advancement is always taken into account, and opportunity is extended for individual growth in the knowledge of those principles which are of practical utility in the every-day work of a printing-office. Occasion for the gaining of experience and acquirement of skill is supplied by the weekly publication of the *Industrialist*, the *Students' H-rald*, and the monthly *Jayhawker*—all in magazine form; the execution of the wide range of job-printing needed to furnish the various College departments with blanks, lesson outlines, and stationery, and the College societies with programs, notices, etc.—thus furnishing a greater range of work for instruction than is ordinariiy found in the average printing-office.

2. **Equipment.** Forty cases of six-point, eight-point and ten-point body type and italics; an assortment of wood and metal job type and brass rule; a Babcock two-revolution, four-roller "Optimus," quarto-medium and eighth-medium Gordon job-presses, and a Monitor wire stitcher—all run by electricity; type-high mitering, rule-curving and stapling machines; paper-cutter, cabinets, stands, impo sing-stones, etc.

WOMEN'S GYMNASIUM.





PRINTING DEPARTMENT.

Public Speaking.

There is perhaps no study of wider application and of more immediate benefit to the student than that of vocal expression. It helps him in his other studies. Every recitation affords him an opportunity of practically applying the rules and principles of correct expression, and, what is of still greater value to him, he soon discovers for himself the fundamental principle that proper expression is always the result of a thorough comprehension of the thought. Shallowness and inaccuracy are almost wholly due to defective reading. For this reason, students are encouraged to form the habit of mentally paraphrasing whatever they read, to the end that they may grasp every detail, relationship, contrast and purpose contained in the subject-matter. This habit, when formed, leads to accuracy of scholarship in any line.

It is not intended that this department should offer an extended course in elocution. There is no intention of fitting students for the stage or platform as professional readers. It may be safely affirmed, however, that the course here offered, taken in conjunction with correlated subjects in the department of English, will prepare the student in this line for all the ordinary demands of an active and useful career.

1. **Public Speaking I.** Second year. Required in all courses. The work in this course is largely analytic. A critical study of the four general types of utterance. Paraphrasing as a preparation for expression. The principle of grouping. Musical properties of speech. Practice in literary and expressional criticism. Carefully selected exercises in vocal technique are given throughout the course. Lessons are assigned, prepared and recited as definitely as in any other study. Text-book, Vocal Expression and Literary Interpretation, part I.

2. **Public Speaking II.** Second year. Required in all courses. In this course the work is synthetic. The principles of vocal expression as studied in part I are here applied to literary wholes. Studies in formulation, discrimination, emotion, and volition. The principle of unity and the laws of movement, principality, contrast and climax are studied and applied to numerous selections from standard literature. Studies in tone color, transitions, and descriptive gesture. The purpose is to cultivate taste, judgment and facility in the art of expression. Instruction is based on Vocal Expression and Literary Interpretation, part II.

3. **Public Readings.** Second and third years. Required in all courses. The instruction in this course is individual and consists of private rehearsals. Each student is required to appear in public at least once a year. For this purpose all sophomores, juniors and seniors are assembled in chapel every Saturday afternoon throughout the year.

4. **Orations.** Each senior student is required to prepare an oration for public delivery. These productions must meet all prescribed requirements, be rehearsed, and delivered as outlined in No. 3. By special arrangement, credits in public readings and orations may be obtained for equivalent work done in any of the College literary societies.

Veterinary Science, Physiology, and Bacteriology.

The course in veterinary science is not intended for the training of veterinarians, but to meet the needs of farmers and stockmen in the line of practical nursing, minor surgery, the use of domestic remedies, and a general knowledge of diseases of animals and how they can be prevented.

In physiology, it is the aim to give a thorough knowledge of the structure and functions of the human body and a clear understanding of the laws which are essential to its healthy development and preservation. So far as practicable, this course is preparatory to work in veterinary science and zoology.

In bacteriology, the student is given a thorough and practical knowledge of bacteria, those that are beneficial as well as those that are injurious, and the various methods by which they can be controlled.

Nos. 1 and 2 are required in the agriculture, domestic science and general science courses; No. 3 is required in the agriculture course.

1. **Physiology.** Second year, winter or spring term. Advanced course in human anatomy and physiology; the gross and microscopic structure of the various tissues and organs of the body and their functions; the various changes, physical and chemical, associated with nutrition, and the conditions that favor the healthy development of the body. Martin's Human Body is used as a text-book. This is supplemented by lectures and laboratory work. This must be preceded by elementary physiology, chemistry I, and elementary physics.

2. **Bacteriology.** Third year, fall, winter or spring term. These courses consist of the morphology, classification and physiology of bacteria; relation of external conditions to bacteria development; disinfectants and disinfecting; bacteriological technique, preparation of culture media, staining, isolating and identifying bacteria; general fermentation, putrefaction, and decay; bacterial action on foods, nitrification, ptomains, toxins, and other bacterial products; hygiene of infective diseases; the preparation and use of antitoxins and vaccines.

The students of all courses are required to take laboratory work, in which they study cultural and microscopical features; the staining of bacteria and preparation of culture media; thus the student becomes perfectly familiar with bacteriological apparatus. Must be preceded by advanced physiology and zoology. Lectures and laboratory work.

3. **Veterinary Science.** Third year, fall term. Comparative anatomy and physiology, with special reference to disease; hygiene of farm animals; nursing; general symptoms and causes of disease; contagious diseases, disinfection, quarantine, and vaccination; parasitic diseases; injurious foods; common diseases of farm animals, with symptoms and treatment; surgery and treatment of wounds; veterinary obstetrics and dentistry. Must be preceded by advanced physiology and chemistry. Text book, Care of Animals, Mayo. Advanced veterinary science and bacteriology are offered as electives in the fourth year.

MEANS OF ILLUSTRATION.

In addition to the stock upon the College farm, the veterinary museum contains Azoux models of man and horse which are dissectible; also, apparatus, instruments, charts, models, and an excellent collection of parasites of domestic animals. There is also a large collection of anatomic specimens, showing healthy and diseased structures. The bacteriological laboratory is well equipped with microscopes and apparatus for bacteriological work, both elementry and advanced.

Beginning in the fall of 1905, the College will offer a four-year course in veterinary science. The first year will be the same as all other courses, the second year practically the same as the second year agriculture course; the third and fourth years to be largely technical.

The Short Courses.

There are large numbers of young people who from lack of means or time are unable to take an extended course of study, but whose usefulness in the world would be much increased by a little special training. Their earning capacity in the household or on the farm is far from what it might be, and they are thus handicapped in the struggle for a livelihood. To bring to this large portion of the "industrial classes," even in small measure, the "liberal and practical education" provided for by the organic act, the College has established certain short courses of study, with practice.

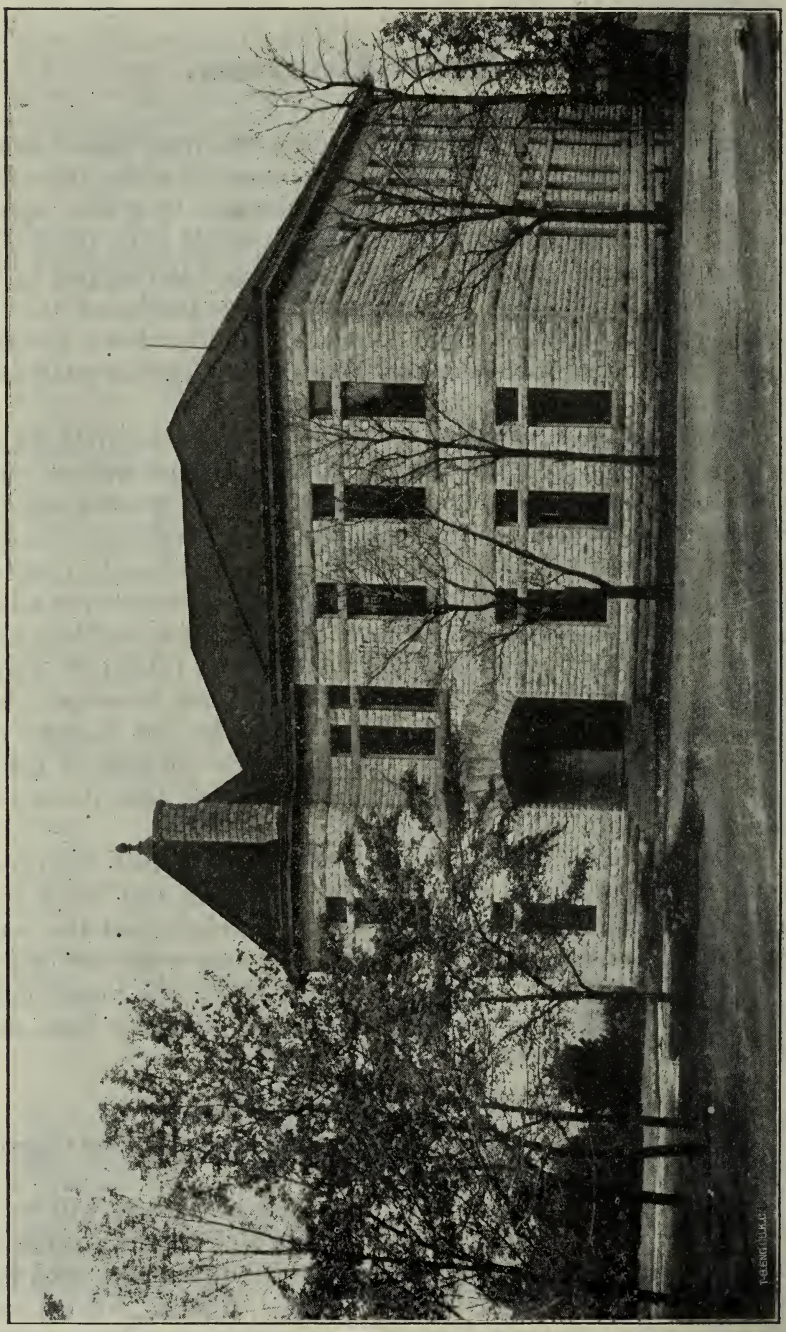
The teaching in these courses, while no whit less accurate than in the others, is upon a different plane. Taking students without scientific or mathematical training, the instruction must be more largely a giving of facts, without an elaboration of the underlying principles which the regular courses afford. The work is intensely practical. Studying such texts as any bright young man or woman can understand, receiving lectures of the same type, and putting into daily practice through industrial exercises the facts and principles learned in the classroom, the student cannot but be greatly benefited. It is hoped, too, that in many cases young people who had thought that they could not afford a four-year course will, by this taste of the advantages and pleasures of an education, be led into the regular courses.

These courses are put at the seasons of the year which seem likely to accommodate the most students, those for young men being given in the winter term, when farm work is more slack, and the young women's course being in the fall. Four such courses are now offered: A dairy course of one winter term; a domestic science course of two fall terms; a farmers' course of two winter terms, and a farm dairy course of one winter term.

Requirements for Admission.

Persons at least eighteen years of age and of good moral character are admitted to these courses as follows:

Persons between the ages of eighteen and twenty-one will be admitted upon presentation of common-school diploma, grammar-school certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading, writing, spelling, arithmetic, grammar, geography, physiology, and United States history. Persons over twenty-one will be admitted without examina-



KEDZIE (DOMESTIC SCIENCE) HALL.

tion, but should have sufficient education to enable them to understand the simple text-books used, and to handle readily problems in common and decimal fractions and percentage. They will be required to attend strictly and constantly to their duties, or leave. They have the same free use of the College library that other students have. Owing to the peculiar nature of the work and to the slight degree of preparation which it assumes, *students are required to be present at the very beginning of the course, and those applying later will not be admitted.*

The short courses are in no sense equivalent to the long courses, and no one should take a short course who can take a whole or even a part of one of the long courses. All of the common-school preparatory and freshman branches are taught each term; and nearly all of sophomore studies are taught each term; so that it is possible for one to get nearly all subjects of the first two years by attending during the winter terms only.

Domestic Science Short Course.

Fall Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Lectures and Practice in Cooking	15
Sewing	15
Drawing	5

Winter Term, Twelve Weeks.

Lectures and Practice in Cooking	8
Home Nursing	2
Physiology and Hygiene	5
Vegetable-gardening and Floriculture	5
Dressmaking	10

First Term.

Lectures and Practice in Cooking. The study of stoves, stove construction, management and fuels are the first topics considered, followed by experiments illustrating the effect of heat upon starch and proteid. The principles are then applied to the cookery of cereals, vegetables, beverages, breads, meats, soups, and simple cake mixtures and puddings. During the term lectures are given by the departments of chemistry and physics illustrating the application of a few fundamental scientific principles to cookery. At stated intervals lecrures are also given on home sanitation and household accounts.

Sewing. Pupil makes a model book covering the full course in hand sewing, and consisting of basting, gathering, darning, patching, etc. Machine practice, drafting, cutting and making underskirt and drawers; drafting, fitting and making dress without lining; cutting and making corset cover and night-dress. Materials for the model work will be furnished by the College. Each pupil will furnish her own material for the garments, but if sufficient proficiency is shown in making the first garment, pupils may be allowed to take orders for the others.

Drawing. The work in drawing is especially adapted to the needs of this class of students; it will consist of free-hand and geometrical drawing.

Second Term.

Lectures and Practice in Cooking. Canning, preserving, salads, cakes, pastries, desserts, the planning and serving of meals and invalid cooking are topics considered, accompanied by lectures from the departments of chemistry and physics.

Home Nursing. This implies simple suggestions for the sick-room and its furnishings, and means of adding to the comfort of the sick.

Physiology and Hygiene. Physiology and hygiene of the human body, laws of health and care of the sick.

Vegetable-gardening and Floriculture. The first half of the term is devoted to vegetable growing. Subjects treated include the raising of vegetables for home and for market, with location, soils, manure, tools, irrigation, etc., best suited for crops grown in kitchen and market-gardens; the construction and manipulation of hotbeds, cold-frames, and winter gardens; the growing of early and late crops, their special treatment, methods of cultivation, planting, transplanting, harvesting, and marketing; a study of varieties suitable to local conditions; and the origin, nature and methods of improvement of vegetables. The last half of the term is devoted to floriculture. Lectures in the classroom are supplemented by practical exercises in the greenhouses and gardens, treating of the propagation and culture of flowers, including the treatment of seeds, cuttings, mixing of soils, potting, repotting, watering, cut flowers, packing, and the many operations that attend amateur and commercial flower gardening.

Dressmaking. Pupil will be taught the use of a dress-cutting system, cutting, fitting and making woolen dress. Pupil must furnish her own material, and cut and make a dress for herself.

DINNER TIME.

Farmers' Short Course.

First Year, Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Horticulture	5
Carpentry	5

Second Year, Winter Term, Twelve Weeks.

Botany	5
Elementary Physics	5
Farm Mechanics and Management	5
Diseases of Farm Animals	5
Grain Judging	5
Blacksmithing or *Traction-engines*	5

First Year.

Crop Production. A study of the soil—its formation, types or classes, composition, characteristics, uses, physical characters, texture, purposes and problems of tillage, conserving soil moisture, warming, ventilating and draining the soil. The implements of tillage, principles involved in their construction and use. A study of the plant—its relation to soil and climate; its life, growth, and propagation; its root system, principles of seed selection, preparation of seed-bed, methods of cultivation, etc. The fertility of the soil, tillage, manures, fertilizers, and rotation of crops. A study of crops by classes and varieties, as grains, grasses, corn, forage, silage, soiling and root crops; practical methods of culture—saving, feeding, and marketing. Text-book, Bailey's Principles of Agriculture.

Feeds and Feeding. The properties of feed stuffs, and their combination to secure good returns at least cost with products having the desired qualities; effect of feeds on quality of products; construction of farm buildings and appliances to secure the best returns from feed and for saving labor; a study of the feeding on the College farm. Text-book, Henry's Feeds and Feeding.

Breeds of Live Stock. A study of the market types of live stock; history and characteristics and adaptibility of the breeds of live stock; selection and judging of live stock according to the official standards; forms as an index to qualities; practice in tracing out pedigrees. Text-books, Shaw's Breeds of Live Stock, Craig's Stock Judging.

Stock Judging. Practice work. Practice in judging chickens, beef cattle, dairy cattle, hogs, horses and sheep according to official standards.

Horticulture. General principles underlying plant growth; structure and functions of the various parts of the plants; nutrition, formation of seeds, etc.; propagation by seedage, cuttage, graftage, and layerage; environment, including the effects of temperature, light, food- and water-supply; possibilities of improvement by cultivation, training, and selection. Text book, Goff's Principles of Plant Culture.

Carpentry. Elementry woodwork in joinery and construction, followed by general woodwork and carpentry; care and use of farm machinery; the building of frame structures, such as stables, piggeries, poultry-houses, ice-houses, and farm creameries, will be given, both by lectures and practical work.

Second Year.

Botany. The laws of plant growth which have a direct bearing upon the raising of grasses, grains, clovers, forage-plants, and weeds; a study of the common fungi that affect cultivated plants; seed-testing; practical methods of farm seed-breeding.

Elementary Physics. This course is designed to give the student a knowledge of the fundamental principles upon which the various physical phenomena depend. The course does not provide laboratory practice. Numerous class demonstrations illustrate the various subjects of mechanics, hydrostatics, heat, light, sound, etc.

Farm Mechanics and Farm Management. The first half of the term will be devoted to rural engineering and farm machinery, and will include laying out of the farm, as regards the selecting of building sites, location of farm buildings, division of the farm into fields, and plans for crop rotation; the construction of buildings and works as to principles of construction, plans, specifications and estimates of the cost of farm buildings, and the water supply, sewerage, drainage, roads, fences, etc.

Several lectures will be devoted to the elements of machines, disclosing the principles involved in the use of the lever, evener, wheel and axle, pulley, inclined plane, screw, and wedge. The several classes of farm machinery will be taken up in their order and studied as to the principles of construction and use of each machine, and attention will be given to the operation, care and repairing of farm machinery, and to the building of machinery sheds.

During the latter half of the term, instruction and practice work will be given in keeping farm accounts, and in the application of business methods to farm operations. Economic questions relating to the employment and management of

POULTRY JUDGING.

farm help, outlay for farm equipment, buildings, and improvements, the buying of machinery and marketing of crops will receive attention. Some instruction will be given in simple questions of rural law, relating to property, deeds, leases, contracts, water rights, line fences, notes, bills of sale, mortgages, interest, taxes, etc. Text-book, Robert's Farmers' Business Handbook.

Diseases of Farm Animals. The common ailments of farm animals are discussed, their causes and symptoms explained, and preventives and remedies suggested. Inoculation against blackleg will be performed by the student in this course.

Grain Judging. This will be a continuation of the study of crop production, and will consist mainly of work in the judging-room, in scoring corn and the common cereals according to inspectors' and buyers' standards or according to recognized standards of perfection. Lectures and quizzes will be given, explaining the work in the judging-room. A special study will be made of corn in the selection of seed ears. Very few farmers will select a "good" ear of corn before they have been carefully instructed and trained to note defects and vital points. It is necessary to know the characteristics of a breed and its recognized standard of perfection before one can intelligently select breeding animals. This is true also of a variety of corn or wheat, and the improved qualities of higher protein, greater vitality and larger productiveness which may be bred into corn by careful and intelligent selection should greatly increase the value of this crop to the farmer.

Blacksmithing. Forging and welding, construction of singletree clips, wagon ironing, clevises, horseshoes, sharpening and tempering plows and tools, general repair work. Advanced work is also offered in the care and management of boilers and engines. If the student desires, he can make a forge and set of blacksmith tools to take home with him, paying only for the iron used.

SAMPLING SOILS.

DAIRY LABORATORY.

Farm Dairy Course.

Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Dairying	5
Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Carpentry	5
Dairy Practice	5

Dairying. Milk—its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns, and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory-cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may test the work of the different modes of separators, churns, etc.

The remainder of this course is the same as the first year of the farmers' short course.

Dairy Course.

Winter Term, Twelve Weeks.

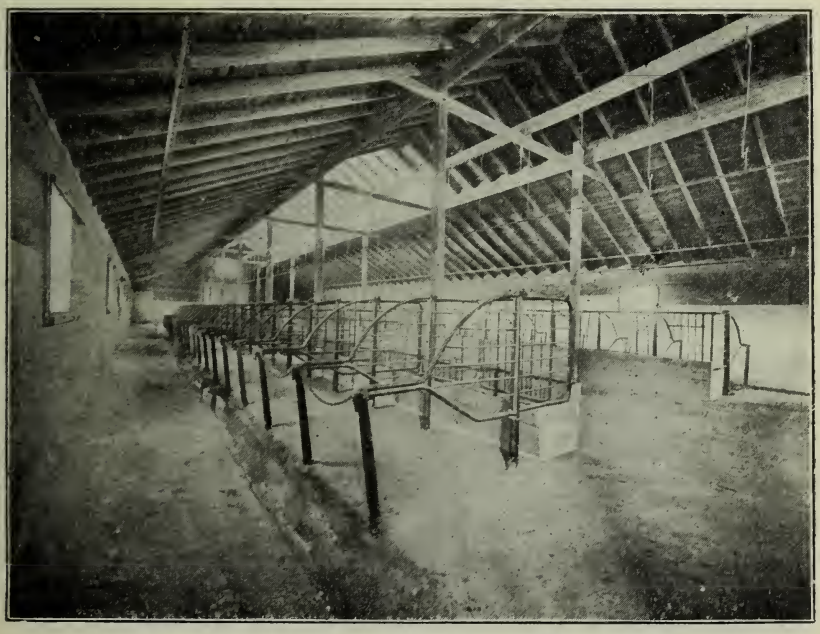
Figures following subjects indicate hours per week.

Dairying	5
Feeds and Feeding	5
Diseases of Dairy Animals	2½
Bookkeeping	2½
Butter and Cheese-making	5
Dairy Practice	10
Boiler and Engine	5

Dairying. Milk—its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Feeds and Feeding. Properties of common feed stuffs; their effect on the character and yield of milk and butter; adaptation and combination of feeds to meet the needs of dairy cows; effect of feed on quality of product; preparation of feeds and methods of feeding; compounding of dairy rations to secure the best yield at least cost. Study of the feeding of the College dairy herd; the dairy farm and care and management of dairy herd. Text book, Henry's Feeds and Feeding.

Diseases of Dairy Animals. The common ailments of calves and dairy cows are discussed and their causes and symptoms explained, remedies and preventives suggested, all from a practical farmer's standpoint. During the dairy school the College herd will be tested with tuberculin and the students taught how to make the test.



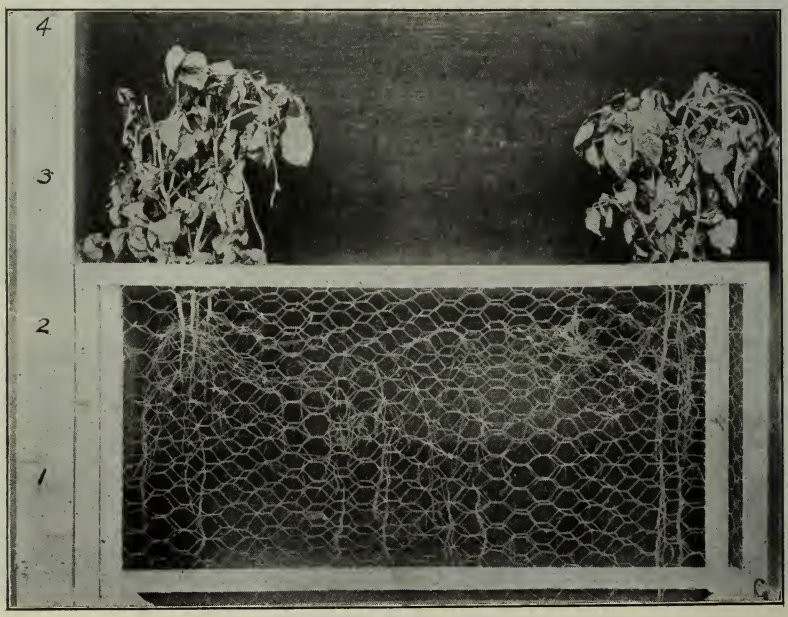
DAIRY BARN.

Bookkeeping. Practice in bookkeeping that will enable the student to understand the underlying principles, followed by training in keeping books for farm, dairy and creamery accounts.

Butter- and Cheese-making. The handling of the milk for the market and for butter-making, including milking, straining, aerating, cooling, preserving, and shipping; testing; creaming of milk by the separator; cream-ripening and butter-making. Construction and management of skimming stations and creameries; methods of handling farm-separator cream; methods of dealing with patrons. The handling of milk for cheese-making; contamination, aeration, enzymes, rennet, making of cheddar cheese, cutting and heating curd, drawing whey, dripping and milling the curd, salting and pressing the curd, curing and packing the finished cheese, coustruction of cheese factories. Swiss, Limberger, Edam and cottage cheese. Text books: Decker's Cheese-making, Wing's Milk and its Products, Farrington and Woll's Testing Milk and its Products. Lectures.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. Students may choose either creamery, butter-making, cheese-making, or private dairying. Thorough instruction and practice will be given in all three of these lines. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory-cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may make test of the work of the different makes of separators, churns, etc.

Boilers and Engines. Lectures and practice in the firing of boilers, care and running of engines, pumps, etc.; practice in shops.



ROOTS OF COWPEAS 65 DAYS AFTER PLANTING.

Young Men's Christian Association.

"See that he (the college student) is in the fullest sense a man and a good man."—PRESIDENT ROOSEVELT.

"Character is of more importance than education."—PRESIDENT SCHURMAN, *of Cornell University.*

"The young men going to college will be the leaders of society in the future. If they leave the college as earnest Christians, they will exert good influences throughout their lives."—HON. JAMES WILSON, *United States Secretary of Agriculture.*

"It is a holy mission to reform a boy or man after he has gone wrong, but it is still better to save him from going wrong."—HON. ALBERT B. CUMMINS, *Governor of Iowa.*

OBJECT. The Young Men's Christian Association is organized for service. Any young man in the College who is of good moral character may belong. Although its distinct function is religious, it is not exclusively such. Active membership is limited to those belonging to evangelical churches, while those young men who are not church members but who believe in good, clean living may join as associate members.

HEADQUARTERS. In the fall of 1903 the association rented what is known as Park Place, situated at the corner of Ninth and Fremont streets. This building contains twenty-eight rooms for students, with bath-rooms, etc. It is heated by steam and lighted by electricity. In one end of the building there is a large, well-lighted parlor, used by the association for its regular Sunday afternoon meetings, for a reading- and game-room, and for social headquarters. This room is open to all students of the College. The building will be used by the association again in 1905–'06.

NEW-STUDENT WORK. New students are met at trains, taken to headquarters, and assisted to find rooms. A handbook published by the two associations and containing valuable information to the new student is given to each one. At the College, in the main building, an information bureau is kept during the first few days of College. The parlors of the Young Men's Christian Association house are wide open for each new student. Every evening of the opening days special amusements are offered. A "stag" social is given to all new men on one of the first evenings of the term.

EMPLOYMENT BUREAU. Students are assisted to find work free of

Y. M. C. A. CABINET.

charge. This work is under the supervision of the general secretary, assisted by an employment bureau committee.

Bible Study. The association offers three or four Bible study courses. A regular systematic course is studied. The classes meet once a week, under student leaders. Three hundred and eighty men were enrolled in twenty-eight different classes during the past year. A force of forty men will prepare themselves during the summer to lead classes during 1905–'06. The plans of the Bible study committee call for 500 men.

Mission Study. Several courses in the study of missions will also be offered by the association. Many men have received a broad general knowledge of foreign lands by this study.

Regular Meetings. The association holds its regular meetings on Sunday afternoon, in the parlors of headquarters. These meetings are generally led by different members of the Faculty, by business men down town, or by outside speakers. A midweek prayer-meeting led by students is held on Wednesday evenings.

Social and Receptions. From time to time socials and receptions are held. These serve to draw the men closer together. At the beginning of the fall and winter terms there is given a social especially planned for the new students.

Correspondence. The association employs a general secretary on full time. Any prospective student who desires information not contained in this catalogue may feel free to write to him. Address, General Secretary of the Young Men's Christian Association, Manhattan, Kan.

Young Women's Christian Association.

The American Student Young Women's Christian Association consists of 450 student associations, with a total membership of 27,110, and with an enrolment of 16,349 in Bible classes during the year 1904–'05. In many institutions the enrolment has been doubled during the past year, and this has been true of our association.

What college organization offers a better training for the responsibilities of life than the Young Women's Christian Association? It is based upon the fundamental principles of Christianity, and seeks to create a sentiment for all that is pure and true and noble. It seeks to organize and unite all the Christian forces of the College for practical work. It is composed of the best young women in college—those who are leaders in their studies. It is strongly supported by the members of the Faculty, Board of Regents, and by the students in general

Some of the important features of the work in our College:

1. The fall campaign committee, who meet new girls at the train and assist them in getting located and started right in college.

2. The lookout committee, who care for those who may be ill or need special care.

3. Weekly devotional meetings, which are a source of inspiration to higher ideals.

4. Prayer circles, Bible study and mission study classes, which broaden the view of Christian work.

5. Opportunity for social development through socials or receptions given each month by the social committee.

6. Opportunity for doing active Christian work among College girls.

7. A general secretary, the employed officer of the association, and the advisory committee, which consists of Faculty ladies and others especially interested in the work, sustain a general advisory relation to the officers of the association and assist them in broadening and carrying out their plans of work.

8. A Young Women's Christian Association home is maintained, where all girls will be welcomed. Should no one meet you when you arrive in the city, come to the home, where some one will be ready to assist you.

All young women contemplating attending college are invited to write to the general secretary in regard to the association or for information concerning the College not found in the catalogue.

Y. M. C. A. PARLOR.

General Information.

Terms of Admission.

Persons over fourteen years of age will be admitted in any of the following ways:

1. Kansas teacher's certificate, provided no subject is below seventy per cent.

2. Diploma received on completion of a county course of study.

3. Certificate of passing the grammar grade or diploma from the high school of any city or county.

4. Pass a satisfactory examination in reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology.

Persons over eighteen years of age will be admitted to the preparatory classes if unable to pass the common-school branches.

Full admission to the first year, in addition to the common-school branches—reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology—requires bookkeeping, advanced English grammar, English readings, English composition, algebra through progressions, physical geography, elementary botany, ancient and medieval history. (See Preparatory Department, page 106.)

It is quite possible for a good student who enters somewhat behind to make up his deficiency in a year or two and graduate in four years.

All of the preparatory and first-year studies are taught each term, and nearly all of the second year subjects; so that a person may enter at the beginning of any term and find work suited to his advancement.

Examinations for admission are held at the beginning of each term. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

On entrance, applications for advanced standing in the courses or for credit for certain studies in the courses may be made to the chairman of the committee on examinations. After entrance, such applications should be made to the professor in charge of the study. In any case the applicant will be required to pass such an examination as the professor in charge deems necessary.

Examinations.

Examinations for admission are held at the beginning of each term, as shown in the calendar of the college year. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

Examinations in the courses are held twice each term, as announced in the calendar. The results of the examinations, marked on a scale of 100, are combined with the grades of the preceding daily exercises into a grade for the period. Grades reported to the Secretary for record are made up by giving the midterm record a value of one-third and the record for the last half of the term a value of two-thirds. For passing a study, the mean grade so calculated, and also the grade for the last half of the term, must be at least seventy. Any student receiving less than a passing grade on two or more studies may be required to drop back or withdraw from the College. Any student may receive a certificate of standing, upon leaving College at the close of a term.

Students deficient in entrance studies must make good such deficiencies before entering on the work of the second year. Students are not catalogued in the junior class unless all deficiencies of the preceding years are provided for. Candidates for graduation must make good all deficiencies before entering on the work of the spring term of the fourth year. No student is considered as a candidate for graduation who, after the opening of the fall term, is deficient more than three full studies in addition to regular work. Extra work is not allowed to any student who failed in any branch the preceding term, or whose average grade for all branches was less than eighty.

After entering college, students are allowed special examinations only upon recommendation of the professor in charge, and by permission of the committee on assignments. Permission for examination in studies not pursued with a class must be obtained at least two months before the examination is held. All such examinations are held under the immediate supervision of the professor in charge, and are thorough and exhaustive. Students desiring credit for work done elsewhere must bring certificates and catalogues to show that the work done is equivalent to ours. The right is reserved to cancel any credits if the work of the student in succeeding branches shows insufficient preparation.

Regulations in Regard to Substitutions.

With the seven regular courses that the College now offers, most of the requirements of students are met. For one reason or another, however, some students find it necessary or desirable to substitute

something else for the work that their respective courses would require. To place such substitutions on a systematic basis, the following regulations have been adopted by the Faculty:

1. Substitutions shall, as far as practicable, give training similar to that of the work displaced.

2. No student shall be allowed a substitution for work in which he has failed.

3. Unless made necessary by the acts of the Board of Regents or of the Faculty, substitutions shall not be allowed: (*a*) To students who are below the third year; (*b*) to students who have failed in any study of the two terms' work immediately preceding; (*c*) unless arranged for in advance.

4. Students desiring to substitute other work for any requirement in their respective courses of study must present written requests to the committee on assignments.

5. When a request for substitution is made by any student, the committee on assignments shall consult with all of the professors whose work is touched by the proposed substitution, and if unable to agree with them the case shall be submitted to the Faculty.

6. All substitutions arranged by the committee on assignments shall be reported to the Faculty by posting on the Faculty bulletin-board, and if not objected to within one week shall be reported to the Secretary for record in the students' register.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged to the formation of sound character by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Monday, and no student may be absent without excuse. Students cannot honorably leave the College before the close of a term, unless excused beforehand. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and absence from them is noted.

There are nine prosperous literary and scientific societies, which meet weekly in rooms set apart for their use—the Alpha Beta and Franklin, open to both sexes, and the Ionian and Eurodelphian for young women. The Webster, the Hamilton, the Agricultural Association, the Engineering Association and the Architectural Club admit to membership young men only.

At various times during the year the College halls are opened for social and literary entertainments for the whole body of students, or for classes. For the last eight years the students have organized and presented courses of entertainments, which have been of high value, and of moderate expense to each individual.

Earning One's Way.

The courses of study are based upon the supposition that the student is here for study, and a proper grasp of the subjects cannot be obtained by the average student unless the greater part of his time is given to college duties. Students in straitened circumstances are encouraged and aided in every way possible, but unless exceptionally strong, both mentally and physically, are advised to take lighter work by extending the course, if obliged to give any considerable time to self-support. As a rule, a student should be prepared with means for at least a term, as some time is necessary for one to make acquaintances and learn where suitable work may be had.

The lines in which employment may be had are various. The College itself employs student labor to the extent of about $1200 per month, the rate paid being ten cents per hour. This work is on the farm, in the orchards and gardens, in the shops and printing-office, for the janitor, etc. As one's ability and trustworthiness become established, more responsible and more remunerative work may be had, to a limited extent. Many students obtain employment in the town; some work for their board in families in town or in the country near the College. Labor is everywhere respected, and the student who earns his way is honored by all. He will necessarily have little time for the lighter pleasures that may be incident to college life.

Expenses.

Tuition is Free. An incidental fee of $3 per term will be charged all students from Kansas. Students from outside of Kansas will be charged an incidental fee of $10 per term, and an enrolment fee of $10. Each student must present receipt for incidental fee before enrolment in classes. Rooms, board and washing are not furnished by the College. Board, with furnished room, can be procured in private families at from $2.50 to $3.50 per week, or table board in student clubs from $2 to $2.25 per week. Furnished rooms, without board, can be obtained at from $3 to $5 per month. Some students board themselves at even less cost, and rooms for the purpose can be obtained at a rent of from $1 to $3.50 per month. Washing costs from 50 cents to 75 cents per dozen. Books cost about $3 per term. Young men of the freshman and sophomore years will be required to have military uniforms costing about $12, and young women of the

freshmen year must have a physical-training suit costing about $3. Ordinary expenditures, aside from clothing and traveling expenses, range from $100 to $200 per year. No institution in the state furnishes an education at less cost to the student.

Business Directions.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained from the President or the Secretary.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several professors and superintendents.

Loans upon school-district bonds are to be obtained from the State School-fund Commission.

Bills against the College should be presented monthly, and, when audited, are paid from the office of the state treasurer.

All payments of principal and interest on account of bonds or land contracts must be made to the state treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

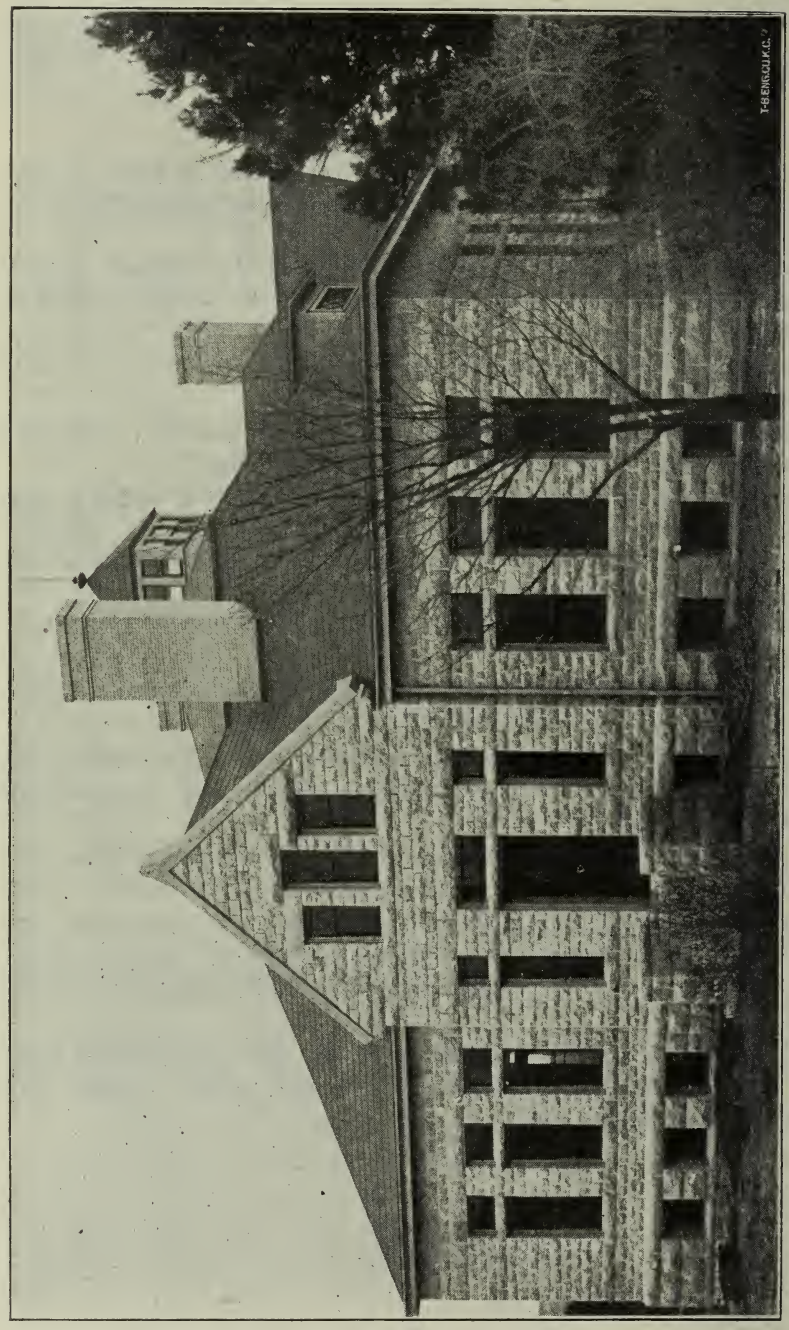
The *Industrialist* may be addressed through Pres. E. R. Nichols, managing editor.

Donations for the library should be sent to the Librarian; donations for the musuem, to the curator of the museum.

Applications for farmers' institutes should be made as early in the season as possible, addressing Institute Department, Kansas State Agricultural College.

Applications for the publications of the Experiment Station, and general inquiries concerning its work, should be addressed to Agricultural Experiment Station; but correspondence concerning any special line of investigatian should be sent to the member of the Council in charge of the work concerning which information is desired.

All half-tones in this catalogue were made from photographs taken by Dr. S. C. Orr, of Manhattan, who has done all the College view work for the last six years.



DAIRY HALL.

Students.

Graduates.

Candidate for Master's Degree. 1905.

Walter E. Mathewson, B. S. '01 ..... *Chemistry, Physiology.*
Topeka, Shawnee county.

In Course Leading to Master's Degree.

Albert Edwin Blair, B. S. '99 ..... *Architecture, Mathematics.*
Quenemo, Osage county.

Claude Carroll Cunningham, B. S. '03.. *Agronomy, Soil Formation.*
Manhattan, Riley county.

Trena Dahl, B. S. '01 ..... *Domestic Science, Chemistry.*
Webber, Jewell county.

S. B. Durham, B. S '04 (Okla. Agr. Coll.) *Dairying, Animal Husbandry.*
Elgin, Chautauqua county.

Josephine Finley, B. S. '00 ..... *Domestic Science, Bacteriology.*
Manhattan, Riley county.

Oscar Hugo Halstead, B. S. '95 ..... *Mathematics, Physics.*
Manhattan, Riley county.

James William Harner, B. S. '00 ..... *Bacteriology, Dairying.*
Manhattan, Riley county.

Alice M. Loomis, B. S. '04..... *Domestic Science, Chemistry.*
Manhattan, Riley county.

Roland McKee, B. S. '00..... *Horticulture, Botany.*
Blue Rapids, Marshall county.

Bessie A. Mudge, B. S. '03..... *Domestic Science, Bacteriology.*
Manhattan, Riley county.

K. Elizabeth Sweet, B. S. '04 ..... *Chemistry, Bacteriology.*
Burlington, Coffey county.

Elsie Lucile Waters, B. S. '98..... *Domestic Science, Chemistry.*
Manhattan, Riley county.

In Advanced Work Not Leading to a Degree.

Loua Adelle Blachly, B. S. '01..... *Domestic Science, Music.*
Manhattan, Riley county.

Maude Mildred Coe, B. S. '02..... *German, Music.*
Yates Center, Woodson county.

Minerva (Blachly) Dean, B. S. '00..... *Music.*
Manhattan, Riley county.

Robert E. Eastman, B. S. '00 ..... *Botany, Music.*
Manhattan, Riley county.

Hetty G. Evans (Mass. Nor. Art Sch.), *Entomology, German.*
Manhattan, Riley county.

Henrietta Mattie Hofer, B. S. '02..... *German, Music.*
Manhattan, Riley county.

Charles Franklin Kinman, B. S. '04 .... *Entomology, Botany.*
Clay Center, Clay county.

Anna Louella O'Daniel, B. S. '03..... *Domestic Science, German, Music.*
Manhattan, Riley county.

Alice May Ross, B. S. '03 ..... *Music, German.*
Manhattan, Riley county.

Sallie Maud Smith, B. S. '04 ..... *Domestic Science, Music.*
Manhattan, Riley county.
Harold Addison Spilman, B. S. '03 ..... *German, Forestry.*
Manhattan, Riley county.
Helen B. Thompson, B. S. '03 ..... *German.*
Wamego, (Wabaunsee county).
Retta Womer, B. S. '04 ..... *Domestic Science, Bacteriology, Physiology.*
Womer, Smith county.

SENIORS.

Name.	Post-office and county (or state).
Harvey Adams,	Ozawkie, Jefferson.
Edward E. Adamson,	Altamont, Labette.
Elva Veola Akin,	Manhattan, Riley.
Pearle Akin,	Manhattan, Riley.
Nellie Wilhelmina Baird,	Marquette, McPherson.
Walter Raymond Ballard,	Baxter Springs, Cherokee.
Jessie Mary Ballou,	Delphos, Ottawa.
Frank Everett Balmer,	Woodston, Rooks.
Asa William Barnard,	Manhattan, Riley.
Atwood N. H. Beeman,	Manhattan, Riley.
Herbert F. Bergman,	Manhattan, Riley.
C. Paul Blachly,	Manhattan, Riley.
Helen Elizabeth Bottomly,	Manhattan, Riley.
Walter Brant,	Wichita, Sedgwick.
William Wilkinson Buckley,	Clyde, Cloud.
Harvey A. Burt,	Bronson, Bourbon.
Eva Maggy Burtner,	Manhattan, Riley.
Ray Arthur Carle,	Topeka, Shawnee.
August Belmont Carnahan,	Douglass, Butler.
Albert F. Cassell,	Beverly, Lincoln.
Joseph Griffith Chitty,	Frankfort, Marshall.
L. Ethel Clemons,	Manhattan, Riley.
Mary Margaret Cole,	Manhattan, Riley.
Andrew D. Colliver,	Galva, McPherson.
Mary P. Colliver,	Galva, McPherson.
Gertrude Matilda Conner,	Mitchell, Rice.
Perry Alfred Cooley,	Manhattan, Riley.
Forrest Leslie Courter,	Downs, Osborne.
Bertha Cowles,	Sibley, Douglas.
Charles William Cummings,	Wilmore, Comanche.
Jules Cool Cunningham,	Glasco, Cloud.
Mamie Grace Cunningham,	Delphos, (Cloud).
Edith Nellie Davis,	Manhattan, Riley.
Guy R. Davis,	Kansas City, *Missouri.*
Minnie Estella Deibler,	Manhattan, Riley.
Ula May Dow,	Manhattan, Riley.
Olive B. Dunlap,	Leonardville, Riley.
Mary Josephine Edwards,	Emporia, Lyon.
Earl Joy Evans,	Jewell, Jewell.
William K. Evans,	Colby, Thomas.
Scott Stuart Fay,	Wilsey, Morris.

Name.	Post-office and county (or state).
Lathrop Weaver Fielding,	Manhattan, Riley.
Lena Finley,	Manhattan, Riley.
Frances Walker Fish,	Manhattan, Riley.
Charles Wesley Fryhofer,	Randolph, Riley.
Robert Anson Fulton,	Beloit, Mitchell.
George W. Gasser,	Manhattan, Riley.
William H. Goodwin,	Detroit, Dickinson.
Herbert Revere Groome,	Manhattan, Riley.
Margaret Helen Haggart,	Topeka, Shawnee.
Otto Albert Hanson,	Marquette, McPherson.
William H. Harold,	Manhattan, Riley.
Lola May Harris,	Harveyville, Wabaunsee.
Henry P. Hess,	Manhattan, Riley.
Orley Justin Hillyer,	Manhattan, Riley.
Frederick Earl Hodgson,	Little River, Rice.
Jessie May Hoover,	Topeka, Shawnee.
Charles Fredrick Johnson,	Leonardville, Riley.
James Henry Johnson,	Manhattan, Riley.
Winifred Mae Johnson,	Solomon Rapids, Mitchell.
George Henry Kellogg,	Manhattan, Riley.
Mildred I. Kirkwood,	Marysville, Marshall.
Nina H. Kirkwood,	Marysville, Marshall.
George Otto Kramer,	Wabaunsee, Wabaunsee.
William C. Lane,	Burlington, Coffey.
Daniel Andrew Logan,	Manhattan, Riley.
Ed. Logan,	Manhattan, Riley.
Rhoda C. McCartney,	Garden City, Finney.
Nellie Reeder McCoy,	Meriden, Jefferson.
Freide E. Marty,	Merriam, Johnson.
Ernest Wilson Matherly,	Manhattan, Riley.
Richard Meyer,	Riley, Riley.
Mary Mudge,	Manhattan, Riley.
Lewis J. Munger,	Hollis, Cloud.
Rachel Gertrude Nicholson,	Manhattan, Riley.
Jens Nygard,	Denmark, Lincoln.
Nell Paulsen,	Whiting, Jackson.
Leonard Marion Peairs,	Lawrence, Douglas.
Luther B. Pickett,	Emporia, Lyon.
Myron A. Pierce,	Manhattan, Riley.
Charles Holcomb Popenoe,	Topeka, Shawnee.
Fanny E. Reynolds,	Cawker City, Mitchell.
Arthur J. Rhodes,	Manhattan, Riley.
Emmit D. Richardson,	Glenelder, Mitchell.
Eva May Rickman,	Manhattan, Riley.
Kate L. Robertson,	Manhattan, Riley.
Garfield Shirley,	Newman, Jefferson.
Walter Emory Smith,	Lebo, Coffey.
Crete Spencer,	Manhattan, Riley.
William Wesley Stanfield,	Chanute, Neosho.
Blanche Stevens,	Humboldt, Allen.
Effie L. Stewart,	Humboldt, Allen.

Name.	Post-office and county (or state).
Mary Catherine Strite,	Manhattan, Riley.
Jessie A. Sweet,	Stockdale, Riley.
Charles Bartholow Swift,	Williamsburg, Franklin.
Charles L. Thompson,	Leon, Butler.
John Bert Thompson,	Leon, Butler.
Roger S. Thompson,	Osborne, Osborne.
Claude B. Thummel,	Axtell, Marshall.
Alonzo F. Turner,	Oakley, Logan.
Marcia Elizabeth Turner,	Rock Creek, Jefferson.
Grace E. Umberger,	Hymer, Chase.
Harry Umberger,	Hymer, Chase.
Fred Van Dorp,	Topeka, Shawnee.
Rebecca Rees Washington,	Manhattan, Riley.
Earl Wheeler,	Bridgeport, Saline.
Inez Wheeler,	Bridgeport, Saline.
Clarence H. White,	Burlington, Coffey.
Wayne White,	Burlington, Coffey.
William J. Wilkinson,	Manhattan, Riley.
Edgar M. Wilson,	Eatonville, Cowley.
Frederick W. Wilson,	Hill City, Graham.
George Heber Wilson,	Winfield, Cowley.
George Wolf,	Manhattan, Riley.
(Mrs.) Grace Enfield Wood,	White City, Morris.
Jay G. Worswick,	Oskaloosa, Jefferson.
Earnest A. Wright,	Smith Center, Smith.

JUNIORS.

Kate Alexander,	Welda, Anderson.
Harvey Wiltson Baker,	Marvin, Phillips.
Julia Susanna Bayles,	Manhattan, Riley.
Jesse N. Bealey,	Morrill, Brown.
Raymond Russell Birch,	Manhattan, Riley.
Herbert Jefferson Bottomly,	Manhattan, Riley.
Roy C. Bowman,	Oxford, Sumner.
Edward Brant,	Wichita, Sedgwick.
Flora Edna Brenner,	Manhattan, Riley.
Frank E. Brown,	Highland, Doniphan.
Fred Wallace Caldwell,	Garnett, Anderson.
John Willard Calvin,	Manhattan, Riley.
Robert More Campbell,	Wamego, Pottawatomie.
Stella Campbell,	Goodrich, Linn.
Will Ward Campbell,	Emporia, Lyon.
Torje Carlson,	Almena, Norton.
Robert Archer Cassell,	Manhattan, Riley.
James Hamilton Cheney,	Great Bend, Barton.
Florence Christina Christensen,	Randolph, Riley.
Roy H. Clark,	Newton, Harvey.
Edith E. Coffman,	Manhattan, Riley.
William Irving Coldwell,	Oxford, Sumner.
Amy Cole,	Manhattan, Riley.
Archie Conner,	Lyons, Rice.

Name.	Post-office and county (or state).
Ruth Cooley,	Manhattan, Riley.
Mary Copley,	Manhattan, Riley.
Alson J. Cowles,	El Dorado, Butler.
Edgar Andrew Cowles,	El Dorado, Butler.
Ethel Cowles,	Sibley, Douglas.
Everet William Cudney,	Belpre, Edwards.
Margaret Ruth Cunningham,	Glasco, Cloud.
Winifred Anna Dalton,	Saint George, Pottawatomie.
Dickie Davies,	Green, Clay.
Ernest Davis,	Parsons, Labette.
Jay L. Dow,	Manhattan, Riley.
Odessa Della Dow,	Manhattan, Riley.
Arthie Aileen Edworthy,	Solomon, Dickinson.
Leonard Roscoe Elder,	Osage City, Osage.
Harriet Maria Esdon,	Olsburg, Pottawatomie.
Smith Faris,	Denison, Jackson.
Ernest Clifford Farrar,	Beattie, Marshall.
Minter Farrar,	Axtell, Marshall.
Arba C. Ferris,	Conway, McFherson.
M. Edith Forsyth,	Dwight, Morris.
Christian A. Gabelman,	Fairport, (Ellis).
Olga Effie George,	Manhattan, Riley.
Charles A. Gilkison,	Larned, Pawnee.
William Thomas Gilliford,	Olsburg, Pottawatomie.
Lewis M. Graham,	Turon, Reno.
Rennie Greene,	Lincoln, Lincoln.
Elbert Ernest Greenough,	Bennington, Ottawa.
May Lucetta Griffing,	Manhattan, Riley.
David H. Gripton,	Smith Center, Smith.
Mabel Estelle Groome,	Williamsburg, Franklin.
Roswell Leroy Hamaker,	Manhattan, Riley.
Boline Hanson,	Jamestown, (Republic).
Daisye Ina Harner,	Manhattan, Riley.
Raymond D. Harrison,	Jewell, Jewell.
Clarence L. Hawkinson,	Marquette, McPherson.
Leslie Eugene Hazen,	Centralia, Nemaha.
Harry Russell Heim,	Lincoln, Lincoln.
Vern E. Hess,	Almena, Norton.
Benoni Hoffhines,	Marquette, McPherson.
Gertrude Elma Hole,	Manhattan, Riley.
Harvey B. Hubbard,	Beloit, Mitchell.
Nellie Dorothy Hughes,	Topeka, Shawnee.
William Harry Imes,	Aurora, Cloud.
Helen C. Inskeep,	Manhattan, (Pottawatomie).
Edward M. Johnston,	Caldwell, Sumner.
Fredric Arthur Kiene,	Valencia, Shawnee.
Clarence Brady Kirk,	Burr Oak, Jewell.
Clyde Livingston Lewis,	Kansas City, Wyandotte.
Percy E. Lill,	Mounthope, Sedgwick.
Laura Lillian Lyman,	Manhattan, Riley.
Charles Wilbur McCampbell,	Manhattan, Riley.

Name.	Post-office and county (or state).
Fred B. McKinnell,	Maize, Sedgwick.
Cora E. McNutt,	Ottawa, Franklin.
Alma McRae,	Goodrich, Linn.
Henry Greenleaf Maxwell,	Kansas City, Wyandotte.
Alvan Taylor Munger,	Manhattan, Riley.
Verda Ellen Murphy,	Manhattan, Riley.
Ruth Emma Neiman,	Whitewater, Butler.
Ross N. Newland,	Groveland, McPherson.
John J. Peckham,	Courtland, Republic.
Martha S. Pittman,	Hammond, Bourbon.
Lester Allen Ramsey,	Topeka, Shawnee.
William Arthur Randle,	Bala, Riley.
Richard Reece,	Lawrence, Douglas.
Nellie Eva Rickman,	Manhattan, Riley.
Jennie Inez Ritner,	Manhattan, Riley.
Elmer D. Samson,	Quinter, Gove.
Ramer Henry Sanneman,	Clay Center, Clay.
William Paul Schroeder,	Lebanon, Smith.
Earl Locke Shattuck,	Holton, Jackson.
Martin Roy Shuler,	Clifton, Washington.
Emily G. Smith,	Childress, *Texas.*
Winfield Weber Smith,	Manhattan, Riley.
Mabelle Sperry,	Neodesha, Wilson.
George A. Spohr,	Manhattan, Riley.
Julia C. Spohr,	Manhattan, Riley.
Henry Adam Spuhler,	Manhattan, Riley.
Orin A. Stevens,	Blue Rapids, Marshall.
Bruce Stewart,	Manhattan, Riley.
Claudius Stewart,	North Topeka, Shawnee.
Albert D. Stoddard,	Manhattan, Riley.
Daniel Charles Sullivan,	Ulysses, Grant.
Ernest Felix Swanson,	Hollis, Cloud.
Howard Taylor,	Chapman, Dickinson.
Elbert Wren Thurston,	Manhattan, Riley.
Warren Bunn Thurston,	Manhattan, Riley.
Doris M. Train,	Manhattan, Riley.
Jessie Leona Travis,	Oakley, Logan.
Chauncey Iles Weaver,	Wakefield, Clay.
Julia Verona Wendel,	Beattie, Marshall.
Carl Wheeler,	Bridgeport, Saline.
Ralph Richard White,	Newton, Harvey.
Thomas F. White,	Little River, Rice.
Charles H. Withington,	Manhattan, Riley.
Thomas M. Wood,	White City, Morris.
Edith Worden,	Topeka, Shawnee.
George Leroy Wright,	Marvin, Phillips.
Guy E. Yerkes,	Hutchinson, Reno.

SOPHOMORES.

Name.	Post-office and county (or state).
Ernest L. Adams,	Ozawkie, Jefferson.
Lizzie Bea Alexander,	Manhattan, Riley.
Jessie Patience Allen,	Manhattan, Riley.
Cyrus J. Anderson,	Hollis, Cloud.
Alfred Henry Baird,	Minneapolis, Ottawa.
Ethel Barber,	Manhattan, Riley.
Raymond C. Barr,	Manhattan, Riley.
R. A. Barry,	Belle Plaine, Sumner.
Charles Earle Bassler,	Manhattan, Riley.
Ethel Esther Berry,	Jewell, Jewell.
Clare Biddison,	Manhattan, Riley.
Ethel Viola Bixby,	Manhattan, Riley.
Horace Bixby,	Manhattan, Riley.
Mable J. Bower,	Manhattan, Riley.
Warren R. Boyd,	Kensington, Smith.
Raymond W. Brink,	Manhattan, Riley.
Henry W. Brinkman,	Olpe, Lyon.
James E. Brock,	Chase, Rice.
Lloyd Archie Brown,	Virgil, Greenwood.
William John Brown,	Fallriver, Greenwood.
Walter E. Burt,	Bronson, Bourbon.
Lulu Belle Carlat,	Auburn, Shawnee.
Clare Cave,	Manhattan, Riley.
Esther Evangeline Christensen,	Randolph, Riley.
Nell Christopher,	Wichita, Sedgwick.
Lee S. Clarke,	Wagoner, *Indian Territory*.
Earle Albert Cole,	Manhattan, Riley.
Claude S. Conner,	Lyons, Rice.
Hermon H. Conwell,	Topeka, Shawnee.
(Mrs.) Ida E. Cook,	Effingham, Atchison.
W. Howard Cook,	Kingman, Kingman.
Jerome Earl Cooley,	Manhattan, Riley.
Allan Elizabeth Cooper,	Manhattan, Riley.
Bernard C. Copeland,	Idana, Clay.
James R. Coxen,	Eskridge, Wabaunsee.
Harry B. Crawford,	Manhattan, Riley.
Guy S. Crise,	Manhattan, Riley.
Herman L. Cudney,	Belpre, Edwards.
Mabell Dana,	Manhattan, Riley.
Robert Lee Davis,	Vermilion, Marshall.
William L. Davis,	Fairview, Brown.
Loea Bessie DeArmond,	Manhattan, Riley.
Alexander H. Denneler,	Winchester, Jefferson.
Harry D. Douglas,	Manhattan, Riley.
Florence Edith Dresser,	Manhattan, Riley.
Marshal Elsas,	Manhattan, Riley.
James Renfrew Esdon,	Olsburg, Pottawatomie.
Lois Failyer,	Manhattan, Riley.
Lena Cora Fay,	Wilsey, Morris.
Harlow Ferguson,	Zeandale, (Wabaunsee).

Name.	Post-office and county (or state).
Stella Finlayson,	Summerfield, Marshall.
Anna Helen Foster,	Bennington, Ottawa.
Mamie C. Frey,	Elk, Chase.
Mary Eliza Gaden,	Riley, Riley.
James R. Garver,	Abilene, Dickinson.
Jesse E. George,	Manhattan, Riley.
Clarence T. Gibbon,	Hartford, Lyon.
Oliver Holmes Gish,	Acme, Dickinson.
Clyde Jamison Gore,	Raymore, *Missouri.*
Frank W. Grabendike,	Ottawa, Franklin.
Olin Graham,	Floyd, *Texas.*
Mont J. Green,	Randall, Jewell.
Samuel P. Haan,	Burlington, Coffey.
Albert P. Haeberle,	Peck, Sedgwick.
Harry T. Hamler,	Manhattan, Riley.
Mary Haney,	Manhattan, Riley.
Ellen J. Hanson,	Marquette, McPherson.
Milo M. Hastings,	Effingham, Atchison.
Homer Richard Hillman,	Goodland, Sherman.
Lawson Edward Hillman,	Goodland, Sherman.
William Warren Hole,	Washington, Washington.
Dexter Holloway,	Yates Center, Woodson.
Fred Houser,	Oxford, Sumner.
Ruby A. Howard,	Manhattan, Riley.
Catherine Hughes,	Topeka, Shawnee.
Flora May Hull,	Manhattan, Riley.
Kate M. Hutchinson,	Bellaire, Smith.
Irene Ingraham,	Manhattan, Riley.
Harry A. Ireland,	Bronson, Bourbon.
Minnie Alice Ise,	Downs, Osborne.
Charles Jacobus,	Manhattan, Riley.
Elmer Johnson,	Latimer, Morris.
Charles Sumner Jones,	Moran, Allen.
Louis M. Jorgenson,	Greenleaf, Washington.
Edith Joslin,	Randall, Jewell.
Edith B. Justin,	Manhattan, Riley.
Miner M. Justin,	Manhattan, Riley.
Clara Myrtle Kahl,	Manhattan, Riley.
Grover Cleveland Kahl,	Manhattan, Riley.
William W. Kendall,	Tonganoxie, Leavenworth.
Almira Kerr,	Idana, Clay.
Mary Kimball,	Manhattan, Riley.
Venus Kimble,	Keats, Riley.
Edward Rudolph Kupper,	Kansas City, Wyandotte.
Clarence Lambert,	Hiawatha, Brown.
Lorin Wendell Lawson,	McPherson, McPherson.
Adah Lewis,	Blue Rapids, Marshall.
Gertrude Lill,	Mounthope, Sedgwick.
Fred R. Lindsey,	Frankfort, Marshall.
Ella Helena Long,	Soldier, Jackson.
James A. Lupfer,	Larned, Pawnee.

Name.	Post.office and county (or state).
Edward Louis McClaskey,	Girard, Crawford.
Myron J. McCray,	Manhattan, Riley.
Ethel McDonald,	Manhattan, Riley.
U. B. McGreevy,	Great Bend, Barton.
Ethel Olive McKeen,	Russell, Russell.
Irwin Clearnce McManis,	Manhattan, Riley.
Carl E. Mallon,	Ogden, Riley.
Karl Manny,	Winfield, Cowley.
Eleanor March,	Manhattan, Riley.
Ella M. Meyer,	Riley, Riley.
Edward M. Miers,	Manhattan, Riley.
Fred Carl Miller,	Belvue, Pottawatomie.
Clarence Moffitt,	Winfield, Cowley.
Joseph Shaw Montgomery,	Cedar Point, Chase.
Leona Estelle Moore,	Manhattan, Riley.
Edward Allen Morgan,	Brainerd, Butler.
John Francis Morgan,	Sylvangrove, Lincoln.
Loren Claire Morgan,	Cherryvale, Montgomery.
James Morrison,	Ford, Ford.
William Thomas Morrison,	Phillipsburg, Phillips.
Caroline Morton,	Topeka, Shawnee.
Jacob Michael Murray,	Goff, Nemaha.
Lucy Needham,	Lane, Franklin.
Don M. Neer,	Winfield, Cowley.
Clarence Nevins,	Ford, Ford.
Orien James Newlin,	Coldwater, Comanche.
Bessie Minerva Nicolet,	Manhattan, Riley.
Amer B. Nystrom,	Topeka, Shawnee.
Elinore B. Ober,	Ottawa, Franklin.
Ole J. Olsen,	Willis, Brown.
Anna Matilda Olson,	Manhattan, Riley.
Harry Oman,	Leonardville, Riley.
Burton Sylvester Orr,	Topeka, Shawnee.
Henry Otto,	Manhattan, Riley.
Rennick Rubenell Paine,	Manhattan, Riley.
Joseph W. Painter,	Beverly, Lincoln.
Louis Reynolds Parkerson,	Manhattan, Riley.
Eliphalet Thierer Patee,	Manhattan, Riley.
Cyrus Arthur Perry,	Greenleaf, Washington.
John Buell Peterson,	Wichita, Sedgwick.
Allen G. Philips,	Topeka, Shawnee.
Harry E. Porter,	Manhattan, Riley.
George Percival Potter,	Peabody, Marion.
Webster McGee Putnam,	Richmond, Franklin.
Georgia Lily Quinn,	Manhattan, Riley.
Raymond Ramage,	Arkansas City, Cowley.
Elizabeth Randle,	Bala, Riley.
Lulu Mahala Rannells,	Manhattan, Riley.
Alvin Josiah Reed,	Saint Clere, Pottawatomie.
Hiram R. Reed,	Centralia, Nemaha.
Edward Richards,	Manhattan, Riley.

Name.	Post-office and county (or state).
James Richards,	Manhattan, Riley.
Ernest W. Robbins,	Arkansas City, Cowley.
Albert Finis Roberts,	Morrill, Brown.
Blanche Robertson,	Manhattan, Riley.
John Michael Ryan,	Muscotah, (Jackson).
Edwin George Schafer,	Jewell, Jewell.
Walter T. Scholz,	Frankfort, Marshall.
Martin William Schottler,	Emporia, Lyon.
Viola Adeline Secrest,	Randolph, Riley.
Wilson George Shelley,	McPherson, McPherson.
Rollie Shirley,	Perry, Jefferson.
G. Wallace Simpson,	Council Grove, Morris.
Perle Harrison Skinner,	Jewell, Jewell.
Curtis Avery Smith,	Manhattan, Riley.
Hallie M. Smith,	Manhattan, Riley.
Margaret Grace Smith,	Manhattan, Riley.
Stanley Van Smith,	Ozawkie, Jefferson.
Frank Sorgatz,	Concordia, Cloud.
H. Ernest Soulé,	Long Island, Phillips.
Charley Stants,	Kensington, Smith.
Maurice I. Stauffer,	Randall, Jewell.
Grace Elizabeth Streeter,	Wakefield, Clay.
Lyman Bradley Streeter,	Wakefield, Clay.
Herbert D. Strong,	Goddard, Sedgick.
Blanche Elsie Stump,	Manhattan, Riley.
Bertha Florence Sweet,	Manhattan, Riley.
Irene Alma Taylor,	Chapman, Dickinson.
Garfield B. Thomas,	Clay Center, Clay.
Earle Thurston,	Manhattan, Riley.
Eiba Todd,	Manhattan, Riley.
Anna R. Tolin,	Soldier, Jackson.
Horace E. Ulrich,	Manhattan, Riley.
May E. Umberger,	Hymer, Chase.
Carroll Walker,	Frankfort, Marshall.
Josephine Elizabeth Walter,	Manhattan, Riley.
Merton Luther Walter,	Manhattan, Riley.
Daniel Walters,	Manhattan, Riley.
Warren Elmer Watkins,	Anthony, Harper.
Jessie Barbara Wells,	Luray, Russell.
Gladys K. Wenkheimer,	Belpre, (Pawnee).
Georgiana West,	Silverlake, Shawnee.
Helen Clara Westgate,	Manhattan, (Geary).
Rose Wilkinson,	Manhattan, Riley.
Chloe May Willis,	Manhattan, Riley.
Nelle Wolf,	Manhattan, Riley.
Asa Calvin Zimmerman,	Moray, Doniphan.

FRESHMEN.

Name.	Post-office and county (or state).
Arthur Lawrence Abrams,	Arkansas City, Cowley.
Bess Alexander,	Welda, Anderson.
Kate Alfrey,	McAllaster, Logan.
Cecile Allentharp,	Manhattan, Riley.
Charles M. Alspach,	Axtell, Marshall.
Clyde Harrison Alspaugh,	Lincolnville, Marion.
Eva Irene Alspaugh,	Lincolnville, Marion.
Augusta C. Amos,	Manhattan, Riley.
William C. Anderson,	Minneapolis, Ottawa.
Grace Aileen Apitz,	Manhattan, Riley.
Jessie Edwina Apitz,	Manhattan, Riley.
Charles Henry Arundel,	Manhattan, Riley.
Eppa Cleveland Ausherman,	Elmont, Shawnee.
Charles W. Avery,	Coldwater, Comanche.
Benjamin B. Baird,	Riley, Riley.
Robert Roy Baird,	Riley, Riley.
Walter E. Baker,	Washington, Washington.
Harold Bales,	Densmore, Norton.
Alice C. Ballou,	Delphos, Ottawa.
Marie Rilda Bardshar,	Mounthope, Sedgwick.
Francis Alva Barnett,	Emporia, Lyon.
Ralph Earl Barnhart,	Centropolis, Franklin.
Vernon Elwell Bates,	Manhattan, Riley.
Ernest Elmer Beighle,	Manhattan, Riley.
Hulda L. J. Bennett,	Manhattan, Riley.
Inga Bentsen,	Willis, Brown.
George P. Berger,	Longford, Clay.
Louis Berges,	Onaga, Pottawatomie.
Ira Roscoe Berkey,	Louisburg, Miami.
Edna Eleanor Biddison,	Manhattan, Riley.
Worthy ValJean Biddison,	Manhattan, Riley.
Ethel Bisbey,	Wamego, Pottawatomie.
Harry Louis Blachly,	Leonardville, Riley.
Ida Adelia Blachly,	Leonardville, Riley.
E. Lee Boerstler,	Humboldt, Allen.
Robert Gould Boyd,	Elmo, Dickinson.
John Arthur Broberg,	Lincoln, Lincoln.
Ella V. Brooks,	Tescott, Ottawa.
Anna Matilda Brown,	Kanona, Decatur.
Harry Wendelle Brown,	Virgil, Greenwood.
John Henry Brown,	Independence, Montgomery.
Elmer Bull,	Kipp, Saline.
Clyde E. Bundy,	Burns, Marion.
Esther Butler,	Manhattan, Riley.
Ralph Elmer Caldwell,	Garnett, Anderson.
Carrie Carls,	Morganville, Clay.
Walter W. Carlson,	Mingo, Thomas.
Etta Carlton,	Manhattan, Riley.
Herbert Ray Case,	Valley Center, Sedgwick.
Alfred I. Casey,	Corning, Nemaha.

Name.	Post-office and county (or state).
Charles Elmer Cassel,	Manhattan, Riley.
Robert Russell Cave,	Manhattan, Riley.
Wayne B. Cave,	Manhattan, Riley.
Ralph Thompson Challender,	Burrton, Harvey.
Zana Emma Challender,	Burrton, Harvey.
Nina E. Church,	Smith Center, Smith.
Minnie Fay Conner,	Lyons, Rice.
Louis Graham Cook,	Effingham, Atchison.
Ralph Cooley,	Manhattan, Riley.
Ralph E. Coon,	Topeka, Shawnee.
Marie Coons,	Manhattan, Riley.
Katherine Cooper,	Manhattan, Riley.
Alexander B. Cron,	Augusta, Butler.
Floyd M. Cudney,	Belpre, Edwards.
Sol Whitney Cunningham,	Manhattan, Riley.
Charles Ferdinand Curs,	Manhattan, Riley.
Eunice Eldessie Custer,	Manhattan, Riley.
James Scott Daniels,	Jamestown, Cloud.
Curtis Lynn Daughters,	Lincoln, Lincoln.
Donald Davies,	Green, Clay.
Irma Davies,	Green, Clay.
Bernice Ada Deaver,	Ionia, Jewell.
Ruby Fae Deaver,	Esbon, Jewell.
George Henry DeWyke,	Randolph, Riley.
Floyd Dixon,	Lebanon, Smith.
Maxwell C. Donley,	Powhattan, Brown.
Ferol Neva Dougherty,	Manhattan, Riley.
James Philip Douglas,	Beattie, Marshall.
Walter H. Edmundson,	Home, Marshall.
Mary Amy Elder,	Osage City, Osage.
Emmett Emslie,	Manhattan, Riley.
Emel T. Erikson,	Dwight, (Geary).
Phillip Eustace,	Wakefield, Clay.
Alwyn Kenneth Evans,	Waldo, Russell.
Blanche L. Evans,	Manhattan, Riley.
Robert Kenneth Evans,	Summerfield, Marshall.
Ross Farrar,	Arkansas City, Cowley.
Ray Warden Ferrell,	Utica, Ness.
Cydney Field,	Ionia, Jewell.
Louise L. Fielding,	Manhattan, Riley.
Louise Fleming,	Tecumseh, Shawnee.
Mabel D. Fleming,	Smith Center, Smith.
Carl Forsberg,	Manhattan, Riley.
Jesse Foster,	Manhattan, Riley.
Augusta M. Fullington,	Idana, Clay.
Erma Gammon,	Ramah, *Colorado.*
Eugene Gammon,	Ramah, *Colorado.*
George F. Gant,	Pratt, Pratt.
W. K. Gardner,	Homewood, Franklin.
Mattie May Garrett,	Dodge City, Ford.
LeRoy E. Gaston,	Morrill, Brown.

Name.	Post-office and county (or state).
Walter Byron Gernert,	McPherson, McPherson.
Harry Ottis Gibson,	Arkansas City, Cowley.
Claire Vernon Gilbert,	Manhattan, Riley.
Hazel D. Gilbert,	Manhattan, Riley.
Robert T. Gilbert,	Kansas City, *Missouri.*
George G. Goheen,	Manhattan, Riley.
Cecile Agnes Graham,	Manhattan, Riley.
Loren Omer Gray,	Galena, Cherokee.
Fred Foster Greeley,	Manhattan, Riley.
Chester W. Grizzell,	Claflin, Barton.
Edna Gertrude Grizzell,	Claflin, Barton.
Gabriel Grosfield,	Willis, Brown.
Walter J. Hagland,	Kansas City, *Missouri.*
Charles Meyers Haines,	Manhattan, Riley.
Hope Faith Charity Hall,	Wichita, Sedgwick.
John Halloran,	Castleton, Reno.
Ervin Harold,	Manhattan, Riley.
Ina Harold,	Manhattan, Riley.
Tillie Harold,	Manhattan, Riley.
Frank Clyde Harris,	Harveyville, Wabaunsee.
Maude Harris,	Harveyville, Wabaunsee.
Quarton W. Harrison,	Manhattan, Riley.
Ida F. Hassebroek,	Manhattan, Riley.
Lizzie F. Hassebroek,	Manhattan, Riley.
F. Otto Hassman,	Manhattan, Riley.
Ella Hathaway,	Mankato, Jewell.
James W. Hawkes,	Banner, Trego.
Joseph Morrow Hawks,	Hiawatha, Brown.
Grace Hawkins,	Marysville, Marshall.
Stella Hawkins,	Marysville, Marshall.
Lawrence Glenn Haynes,	Glasco, Cloud.
Nora Hays,	Manhattan, (Pottawatomie).
Alice Mabel Hazen,	Centralia, Nemaha.
William Hemphill,	Pratt, Pratt.
Jestie Lovinia Hepler,	Manhattan, Riley.
Ella A. Himes,	Manhattan, Riley.
Martin Anthon Hinrichs,	Cleburne, Riley.
Leon George Hoffman,	Manhattan, Riley.
Barton Holland,	Topeka, Shawnee.
Josie Holland,	Manhattan, Riley.
Vera E. Holloway,	Yates Center, Woodson.
Arthur Holmes,	Carbondale, Osage.
William Avery Hopper,	Arkansas City, Cowley.
Clyde W. Horton,	Sterling, Rice.
Annice Howell,	North Topeka, Shawnee.
Grace Gertrude Hull,	Manhattan, Riley.
Pearl May Hull,	Kiowa, Barber.
Ralph W. Hull,	Manhattan, Riley.
Wyllys Lyman Hull,	Milford, Geary.
Helen Knostman Huse,	Manhattan, Riley.
Archie Edward Immenschuh,	Wamego, Pottawatomie.

Name.	Post-office and county (or state).
Marguerite James,	Riley, Riley.
Benjamin David Jeffs,	Hutchinson, Reno.
Minnie Ora Jenkins,	Council Grove, Morris.
A. Frank Johnson, jr,	Independence, Montgomery.
Harry C. Johnson,	Dwight, Morris.
Martin A. Johnson,	Topeka, Shawnee.
Edna Mary Jones,	Manhattan, Riley.
Elmer W. Jones,	Elk Falls, Elk.
Seneca Jones,	Bala, Riley.
Ursa Joslin,	Randall, Jewell.
Henry D. Kappelmann,	Linn, Washington.
Charles Alterson Kelsall,	Reno, Leavenworth.
Clyde Kendall,	Latimer, Morris.
Arthur W. Kirby,	Paola, Miami.
Albert G. Kittell,	McPherson, McPherson.
David Kratzer,	Mitchell, Rice.
Alfred John Larmor,	Garden City, Finney.
Harriet Elizabeth Lash,	Hope, Dickinson.
Emma Lee,	Ionia, Jewell.
Orville H. Legg,	McCune, Crawford.
Abraham L. Leonard,	Ellis, Ellis.
Maud Lillian Logan,	Manhattan, Riley.
Ray DeBra Logue,	Hutchinson, Reno.
Edmund Franklin Loveless,	Antelope, Marion.
Henry C. Lucas,	Frankfort, Marshall.
Nels Ludvickson,	Severy, Greenwood.
William Thomas McCall,	Wa Keeney, Trego.
Ray Collins McCoy,	Partridge, Reno.
Alexander McCrerey,	Hiawatha, Brown.
Emery W. McKee,	Hallowell, Cherokee.
Olive R. McKeeman,	Soldier, Jackson.
Edna Annie McKeen,	Manhattan, Riley.
James W. McLaughlin,	Girard, Crawford.
Harry Charles McLean,	Mankato, Jewell.
Achsah Claire Mackey,	Topeka, Shawnee.
Robert Johnson Mackey,	Topeka, Shawnee.
Philip Edward Marshall,	Denison, Jackson.
John Edward Martin,	Waverly, Coffey.
Jessie Lou Marty,	Merriam, Johnson.
Alice Nettie Marvin,	Manhattan, Riley.
Chalmer A. Mather,	Manhattan, Riley.
Delia Matteson,	Phillipsburg, Phillips.
James Arthur Milham,	Waverly, Coffey.
Harry Edward Miller,	Kechi, Sedgwick.
Francis Burzley Milliken,	Hill City, Graham.
John G. Missildine,	Oxford, Sumner.
George A. Moffatt,	Clyde, Cloud.
Harry H. Momyer,	Great Bend, Barton.
Raymond Morton Moody,	Lenexa, Johnson.
Albert R. Moore,	Coldwater, Comanche.
Celia Caroline Moore,	Manhattan, Riley.

Name.	Post-office and county (or state).
David Karl Morris,	Ottawa, Franklin.
Orr O. Morrison,	Manhattan, Riley.
Lizzie Morwick,	Eskridge, Wabaunsee.
Edna Anna Munger,	Manhattan, Riley.
Heber Orla Munger,	Manhattan, Riley.
Glenn G. Murphy,	Lyons, Rice.
Rudolph B. Nelson,	Osage City, Osage.
Guy D. Noel,	Valencia, Shawnee.
Victor Emanuel Oman,	Walsburg, Riley.
David Lawrence Orendorff,	Manhattan, Riley.
Floyd L. Osburn,	Peru, Chautauqua.
Charles Henry Paine,	Manhattan, Riley.
James Oliver Parker,	Lakin, Kearny.
Martin Luther Parsons,	Ada, Ottawa.
Harry A. Paul,	Osborne, Osborne.
William Clarence Paul,	Blue Rapids, Marshall.
Vernon Peachey,	Darlow, Reno.
Stella Jane Pearson,	Humboldt, Allen.
Earnest Cleland Penley,	Augusta, Butler.
Karl Orian Perfect,*	Jewell, Jewell.
Lora Perry,	Manhattan, Riley.
Gweneth M. Petty,	Morganville, Clay.
George H. Phinney,	Lebo, Coffey.
Arthur Benjamin Pincomb,	Merriam, Johnson.
Beulah Pitman,	Manhattan, Riley.
George Allison Porter,	Manhattan, Riley,
Russell C. Porter,	Manhattan, Riley.
Adeline Poston,	Emporia, Lyon.
Emma Praeger,	Claflin, Barton.
Herman Albert Praeger,	Claflin, Barton.
James J. Price,	Emporia, Lyon.
Ed H. Pugh,	Independence, Montgomery.
Thomas Jefferson Ragland,	Topeka, Shawnee.
Harold S. Records,	Beloit, Mitchell.
Hallie Reed,	Saint Clere, Pottawatomie.
Oliver Willes Reynolds,	Paola, Miami.
John A. Richards,	Manhattan, Riley.
Ida Ethel Rigney,	Manhattan, Riley.
Percy M. Roberts,	Clearwater, (Sumner).
Donald Ross,	Independence, Montgomery.
Clara Dorothy Schield,	Hanover, Washington.
John Schlaefli,	Cawker City, Mitchell.
Henry W. Schmidler,	Marysville, Marshall.
Nola Schriver,	Whitewater, Butler.
Jay Warren Simpson,	Talmage, Dickinson.
Jay Latimer Smith,	Ozawkie, Jefferson.
Ned Smith,	Manhattan, Riley.
Ruth Anna Smith,	Manhattan, Riley.
Ralph Edwin Snapp,	Belleville, Republic.
Clarence A. Souders.	Manhattan, Riley.

* Deceased.

Name.	Post-office and county (or state).
Agnes J. Soupene,	Manhattan, Riley.
Guy A. Speers,	Haddam, Washington.
Roy E. Spriggs,	Little River, Rice.
Max Llewellyn Steele,	Minneapolis, Ottawa.
Kate E. Stinson,	Kanona, Decatur.
William M. Stivison,	Lyndon, Osage.
Leora Juanita Sutcliffe,	Mankato, Jewell.
Ross H. Sweet,	Manhattan, Riley.
Thomas Victor Terbush,	Potwin, Butler.
Harry M. Thompson,	Burrton, Harvey.
Louise B. Throbeck,	Norway, Republic.
Merritt Rex Tinkham,	Manhattan, Riley.
Besse L. Tolin,	Soldier, Jackson.
Charles T. Topping,	Florence, Marion.
Richard W. Wallace,	Wichita, Sedgwick.
Catherine N. Ward,	Minneapolis, Ottawa.
Paul Joseph Warden,	McCracken, Rush.
John Monroe Washburn,	Topeka, Shawnee.
Lulu Edith Watt,	Kansas City, Wyandotte.
Elsie May Waymire,	Frankfort, Marshall.
Robert Earnest Whitfield,	Wabaunsee, Wabaunsee.
Burton H. Wilber,	Lyons, Rice.
Harrison Walter Wilkison,	Dwight, Morris.
Charles Julius Willard,	Manhattan, Riley.
James J. Williams,	Home, Marshall.
Vesta Williston,	Manhattan, Riley.
Bruce S. Wilson,	Manhattan, Riley.
Frances Odell Wilson,	Ingalls, Gray.
Ira A. Wilson,	Winfield, Cowley.
Norman F. Wilson,	Oberlin, Decatur.
Georgia Withington,	Manhattan, Riley.
Nellie Lunetta Wreath,	Manhattan, (Pottawatomie).
Charles W. Wynkoop,	Atchison, Atchison.
William R. Yerkes,	Hutchinson, Reno.
Stuart Smith Young,	Manhattan, Riley.
James Walter Zahnley,	Dwight, Morris.

PREPARATORY.

Krien Aeilts,	Inman, McPherson.
Mabel Catherine Aikin,	Tyner, Smith.
Fred T. Alderson,	Burden, Cowley.
Jessie Mabel Alvord,	Zurich, Rooks.
Raiffe Alvord,	Manhattan, Riley.
Albion J. Anderson,	Manhattan, Riley.
Clyde L. Anderson,	Cawker City, Mitchell.
John H. Anderson,	Lebanon, Smith.
George Alexander Andrews,	Lancaster, Atchison.
Orville Perry Andrews,	Clifton, Clay,
Winfield Scott Armstrong,	Topeka, Shawnee.
Robert Askew,	Macksville, Stafford.
Will David Austin,	Isabel, Barber.

Name.	Post-office and county (or state).
Hannah Maud Avers,	Keats, Riley.
Thomas B. Avers,	Keats, Riley.
Arthur C. Bailey,	Wellington, Sumner.
Lambert L. Bailey,	Great Bend, Barton.
O. R. Baird,	Manhattan, Riley.
Jesse E. Barber,	Atchison, Atchison.
Harry Barbour,	Dearing, Montgomery.
James Knox Barker,	Bethel, Wyandotte.
John Barthold, jr.,	Partridge, Reno.
Walter Andrew Bartholf,	Manhattan, Riley.
Benjamin Franklin Bales,	Manhattan, Riley.
Myrtle Ruth Bayles,	Manhattan, Riley.
Osa Beeler,	Mankato, Jewell.
Arch Beggs,	Hallowell, Cherokee.
Robert E. Berkeley,	Burr Oak, Jewell.
Victor Hiram Berkey,	Louisburg, Miami.
Elbridge Jarvis Best,	Manhattan, Riley.
Leola Pearl Bixby,	Manhattan, Riley.
Fred Blakey,	Cheney, Kingman.
Paul Edwin Blodgett,	Keats, Riley.
George Marshall Boggs,	Beattie, Marshall.
Leroy Maxwell Bourbon,	Jewell, (Mitchell).
Ammie A. Bowker,	Saint John, Stafford.
Ruby E. Boyd,	Hoisington, Barton.
Charles Joseph Boyle,	Spivey, Kingman.
Ralph Hamilton Brady,	Abilene, Dickinson.
William John Bramwell,	Ames, Cloud.
Glen Edward Brooks,	Lucas, Osborne.
Charles E. Brower,	Wellington, Sumner.
Edward Roy Brown,	Duquoin, Harper.
Grace Florence Brown,	Manhattan, Riley.
Etta Buell,	Pavilion, Wabaunsee.
Ira E. Brown,	Sylvangrove, Lincoln.
John Truman Brown,	Hollenberg, Washington.
Mabel Rose Brown,	Adrian, Jackson.
Warren Martin Brown,	Mankato, Jewell.
George Bruner,	Larkin, Jackson.
Horace Butler,	Lyons, Rice.
Alfred Vivian Byarlay,	Bala, Riley.
Alpha Vivia Byarlay,	Bala, Riley.
Frank Robert Bynum,	Wichita, Sedgwick.
William Callahan,	Burr Oak, Jewell.
Paul Calvin,	Manhattan, Riley.
Ruth Calvin,	Manhattan, Riley.
Katherine Pearle Campbell,	Abilene, Dickinson.
Edward Canfield,	Iola, Allen.
Albert Carlson,	Blue Rapids, Marshall.
Anna Wilhelmina Carlson,	Manhattan, Riley.
Carl August Carlson,	Clifton, Washington.
John R. Carnahan,	Manhattan, Riley.
Sarah Elizabeth Cassel,	Manhattan, Riley.

Name.	Post-office and county (or state).
Harold Edmund Cate,	Eskridge, Wabaunsee.
Ben T. Chaney,	Adrian, Jackson.
Villa Circle,	Hazelton, Barber.
Henry Leslie Clare,	Sterling, Rice.
C. Grace Clarkson,	Fairport, Russell.
Dora Clarkson,	Fairport, Russell.
Earl Clayton,	Admire, Lyon.
Ethel R. Coffman,	Manhattan, Riley.
Joseph H. Coffman,	Manhattan, Riley.
Grover Coker,	Scott City, Scott.
Bessie Cole,	Manhattan, Riley.
Edwin Lloyd Cole,	Manhattan, Riley.
Blanche M. Collister,	Manhattan, Riley.
Allan Colman,	Talmage, Dickinson.
Charles Thomas Colver,	Clearwater, Sedgwick.
Harry Colwell,	Leonardville, Riley.
Leslie D. Connell,	Altoona, Wilson.
Joseph Hayes Connelly,	Parsons, Labette.
George Washington Conner,	Cheney, Sedgwick.
E. M. Cook,	Effingham, Atchison.
James Martin Cook,	Effingham, Atchison.
Nora Belle Cook,	Irving, Marshall.
Fern B. Copsey,	Waverly, Coffey.
Robert Lee Cormack,	Solomon, Dickinson.
Nelson F. Cornelius,	Rantoul, Franklin.
Theodore Lewis Cowen,	Kansas City, *Missouri.*
Cyrus James Creighton,	Morrowville, Washington.
Wilford O. Cress,	Codell, Rooks.
Walter S. Criswell,	Frankfort, Marshall.
James Wesley Crooks,	Frankfort, Marshall.
Ward Webster Curtis,	Leonora, Norton.
Alfhild Marie Dahl,	Montrose, Jewell.
Nellie Danielson,	Clyde, Cloud.
Doris Danison,	Ionia, Jewell.
Frank Harrison Davis,	Pomona, Franklin,
Mayme Davis,	Little River, Rice.
Mabel Ethel Davison,	Michigan Valley, Osage.
Wilbur Sumner Davison,	Michigan Valley, Osage.
Emma C. Deere,	Manhattan, Riley.
Lynn J. DeGarmo,	Great Bend, Barton.
Lawrence Deming,	Larkin, Jackson.
Ida E. De Selm,	Manhattan, Riley.
Harry Ellsworth Disman,	Cherryvale, Montgomery.
Thomas Miller Dobbin,	Viola, Sedgwick.
Lulu Holmes Docking,	Manhattan, Riley.
Walter Dodson,	Denison, Jackson.
Frank Brooks Dolph,	McLouth, Jefferson.
Mabel Nellie Dolton,	Lucas, Russell.
Edgar L. Doom,	Bennington, Ottawa.
Myron E. Doom,	Bennington, Ottawa.
Fay Douglas,	Manhattan, Riley.

Name.	Post-office and county (or state).
Stephen Chester Douglass,	Clifton, Washington.
William Droge,	Seneca, Nemaha.
George Edward Dull,	Washington, Washington.
Ray Ronald Dunlap,	Winthrop, *Iowa.*
Vernon Albert Eastman,	Bloomington, Osborne.
Robert Eberhardt,	Maplehill, Wabaunsee.
Merrill R. Edelblute,	Keats, Riley.
Earl Lewis Edwards,	Phillipsburg, Phillips.
Harold Eike,	Leon, Butler.
Katherine Lucy Emslie,	Manhattan, Riley,
Grace Enlow,	Wamego, Pottawatomie.
Edwin A. Evenson,	Claflin, Barton.
Henry Farley,	Etna, Barber.
Hiram Fuller Farmer,	Arkansas City, Cowley.
Harry Albert Feary,	Anness, Sedgwick.
Charles O. Ferris,	Chapman, Dickinson.
James Fleming,	Tecumseh, Shawnee.
Karl Folkers,	Oatville, Sedgwick.
Donald Foote,	Simpson, Mitchell.
Floy Foote,	Simpson, Mitchell.
Minnie L. Forceman,	Vliets, Marshall.
Charles Earl Foresman,	Manhattan, Riley.
Carl M. Frame,	Parsons, Labette.
Charles Walter Frank,	Manhattan, Riley.
John Charles Franz,	Holycross, Pottawatomie.
Frank Pierce Freidline,	Caney, Montgomery.
Glen Westly French,	Manhattan, Riley.
Chauncey Frisbie,	Kingman, Kingman.
John Perl Fuller,	Hiawatha, Brown.
Arthur M. Fury,	Miltonvale, Cloud.
John Francis Gaden,	Riley, Riley.
John M. Garrity,	Perth, Sumner.
Ritchie A. Gaston,	Morrill, Brown.
Raymond E. Gates,	Anthony, Harper.
Gilbert G. Ghormley,	Partridge, Reno.
Charles H. Giddings,	Burns, Marion.
Roy Gilliland,	Mayetta, Jackson.
Clide Girod,	Towanda, Butler.
Renie Girod,	Towanda, Butler.
Amos H. Gish,	Abilene, Dickinson.
Naomi Gish,	Abilene, Dickinson.
Walter S. Gish,	Abilene, Dickinson.
Samuel T. Glass,	Eskridge, Wabaunsee.
Daniel Albert Glenn,	Wamego, Pottawatomie.
Cledus Godlove,	Manhattan, Riley.
William Holman Goldsmith,	Acme, Dickinson.
Robert A. Grant,	Lane, Franklin.
George L. Graves,	Kiowa, Barber.
Archie Griffee,	Frankfort, Marshall.
William Henry Grinter,	Perry, Jefferson.
Oscar James Guilbert,	Banner, Trego.

Name.	Post-office and county (or state).
Edward Guild,	Washington, Washington.
Aaron Guth,	Sterling, Rice.
Harriet Inez Guttridge,	Cullison, Pratt.
Anton Leadue Haggman,	Kackley, Republic.
Samuel William Hallock,	Englewood, Clark.
Vernon Halstrom,	Vliets, Marshall.
Alfred F. Hammar,	Haddam, Washington.
R. D. Haney,	Courtland, Republic.
Alfred Charles Hansen,	Willis, Brown.
Anton Hanson,	Jamestown, Cloud.
Harry W. Hanson,	Manhattan, Riley.
Wilfred Harned,	Coffeyville, Montgomery.
Bertha Harri,	Brookville, Saline.
Elizabeth C. Harri,	Brookville, Saline.
Fritz F. Harri,	Brookville, Saline.
Arthur Lynn Harris,	Harveyville, Wabaunsee.
Rolla Harrison,	Wellsville, Franklin.
Walter L. Hart,	Crestline, Cherokee.
Georgia Harvey,	Flush, Pottawatomie.
Charles C. Hastings,	Edgerton, Johnson.
Frank G. Haulenbeck,	Manhattan, Riley.
Ernest E. Hawke,	Wakarusa, Shawnee.
Arthur Raymond Hawkes,	Banner, Trego.
LeRoy Dunton Hawkes,	Banner, Trego.
John Jesse Heidebrecht,	Inman, McPherson.
Eusebia Olive Helm,	Manhattan, Riley.
Jenny Matapony Helm,	Wamego, Pottawatomie.
August Helscher,	Paradise, Russell.
Charles Heltman,	Webber, Jewell.
Charles Hennon,	Morrowville, Washington.
Ida Viola Hepler,	Manhattan, Riley.
Nora E. Hepler,	Manhattan, Riley.
Clarence Hill,	Mounthope, Sedgwick.
Kathryn Gertrude Hilliard,	Manhattan, Riley.
Rebecca A. Himes,	Manhattan, Riley.
Pearle Frances Hinkle,	Courtland, Republic.
Jesse T. Hirst,	Hutchinson, Reno.
Charles M. Hoffhine,	Morrowville, Washington.
Leonard Joseph Hole,	Manhattan, Riley.
Ada Statira Holroyd,	Manhattan, Riley.
Fred Hopper,	Arkansas City, Cowley.
Emma Grace Horning,	Grantville, Jefferson.
Alfred Newton Horstman,	Kansas City, Wyandotte.
Luther G. Howard,	Cawker City, Mitchell.
Charles F. Hughes,	Manchester, Dickinson.
David H. Hull,	Kiowa, Barber.
Pansy Claribel Humphries,	Kiowa, Barber.
Russ T. Hutchins,	Cawker City, Mitchell.
George Dee Inslee,	Isabel, Pratt.
Alice Victoria Ipsen,	Cleburne, Riley.
Alfred W. Isern,	Ellinwood, Barton.

Name.	Post-office and county (or state).
Inez May Jackson,	Kidderville, Hodgeman.
Rosetta James,	Bala, Riley.
Jessie Jenkins,	Council Grove, Morris.
Edward G. Johnson,	Colony, Anderson.
Etta F. Johnson,	Leonardville, Riley.
Herman Berger Johnson,	Vliets, Marshall.
Lester Johnson,	Wabaunsee, Wabaunsee.
Frederick T. Jones,	Topeka, Shawnee.
Jennie Jones,	Plymouth, Lyon.
Laura Anne Jones,	Elk Falls, Elk.
Thomas Nelson Jones,	Plymouth, Lyon.
Tina Jorgenson,	Greenleaf, Washington.
Charles Judd,	Irving, Marshall.
Margaret Justin,	Manhattan, Riley.
Charles Kabance,	Holton, Jackson.
Anne Dorothea Kabel,	Fairport, Russell.
Tillie Marie Kammeyer,	Manhattan, Riley.
Burtin O. Keck,	Summerfield, Marshall.
Francis E. Kelly,	Esbon, Jewell.
Martin E. Kelly,	Esbon, Jewell.
Elizabeth Kemper,	Louisville, Pottawatomie.
Darilah Kennedy,	Dana, Phillips.
Charles D. Kinnear,	Powhattan, Brown.
Carl L. Kipp,	Piqua, Woodson.
Frank Kirgis,	Beloit, Mitchell.
Wilson V. Knapp,	Manhattan, Riley.
Albert E. Kresin,	Glenelder, Mitchell.
Edison Frank Kubin,	McPherson, McPherson.
William Henry Lacey,	Saint Marys, (Jackson).
Mary S. Lane.	Chalk, Wabaunsee.
James Oscar Larson,	Powhattan, Brown.
Neva Ethel Larson,	Tescott, Ottawa.
Arthur Albert Lee,	Columbus, Cherokee.
Mary Esther Lee,	Manhattan, Riley.
Earl Charles Lepper,	Sharon, Barber.
Otto Lepper,	Sharon, Barber.
Bertha Lervold,	Scandia, Republic.
Martin Lervold,	Scandia, Republic.
Mary Lervold,	Scandia, Republic.
Bertha Bell Lewis,	Topeka, Shawnee.
Frank Clark Lewis,	Fontana, Miami.
James Edward Lewis,	Topeka, Shawnee.
John Lewis,	Emporia, Lyon.
Priscilla Lewis,	Manhattan, Riley.
Joe Grigsby Lill,	Mounthope, Sedgwick.
Roy Stanley Lilley,	Piedmont, Greenwood.
Charles Lindsay,	Manhattan, Riley.
Nellie Lindsay,	Manhattan, Riley.
Charles Lipperd,	Oxford, Sumner.
Marguerite Lofinck,	Manhattan, Riley.
John Edson Love,	Arkansas City, Cowley.

Name.	Post-office and county (or state).
John McCoy Love,	Partridge, Reno.
Roland Loyd,	Bendena, Doniphan.
Bessie Lundberg,	Manhattan, Riley.
Horace Grover McAllister,	Manhattan, Riley.
William Huey McAninch,	Manhattan, Riley.
Vern Allen McCall,	Utica, Ness.
Robert Albert McCauley,	Olivet, Osage.
C. Wayne McCreary,	Holton, Jackson.
Etta Marie McCrerey,	Hiawatha, Brown.
William W. McCrory,	Mayetta, Jackson.
Fred H. McCue,	Cleveland, Kingman.
Homer B. McFadden,	Maize, Sedgwick.
Myrtle McFadden,	Stafford, Stafford.
Robert McInnes,	Langley, Ellsworth.
Joseph M. McKamey,	Kansas City, Wyandotte.
Walter Scott McKay,	Independence, Montgomery.
Roma Harold McOscar,	Lyons, Lyons.
Sam A. McWilliams,	Morrowville, Washington.
Andrew Mace,	Plainville, Rooks.
Floyd Russell Machin,	Dorrance, Russell.
Pearl Madden,	Valley Falls, Jefferson.
Mabel Clare Maris,	Coldwater, Comanche.
Frank Ernest Marsh,	Manhattan, Riley.
Clyde Marshall,	Mounthope, Sedgwick.
F. Herman Mayer,	Alta Vista, Wabaunsee.
Edgar Clyde Mead,	Dexter, Cowley.
John R. Meister,	Wakefield, Clay.
Ernest Sterling Melvin,	Eminence, Finney.
Allen Merriam,	Winfield, Cowley.
W. S. Merriam,	Winfield, Cowley.
George R. Merrill,	Fredonia, Wilson.
Henry Miller,	Milford, Geary.
Charles O. Mitchell,	Manhattan, Riley.
George Thomas Mitchell,	Edna, Labette.
John Will Montgomery,	Manhattan, Riley.
Vellah Montgomery,	Manhattan, Riley.
Earl W. Moore,	Pratt, Pratt.
Gertrude May Moore,	Pratt, Pratt.
James Andrew Moore,	Norway, Republic.
Ruth Moore,	Dresden, Decatur.
A. R. Morrell,	Liberal, Seward.
Edith M. Morrow,	Waterville, Marshall.
Edward R. Morton,	Topeka, Shawnee.
Margaret Ethel Moseley,	Alma, Wabaunsee.
William Moss,	Lincoln, Lincoln.
Francis Mulhern,	Beattie, Marshall.
Edwin G. Munsell,	Herington, Dickinson.
Daisie Munson,	Winfield, Cowley.
Della Delpha Murphy,	Manhattan, Riley.
John A. Murrow,	Adrian, Jackson.
Marx Anthony Musser,	Acme, Dickinson.

Name.	Post-office and county (or state).
Joseph M. Myszka,	Garnett, Anderson.
J. Percy Naff,	Comiskey, Lyon.
Telie E. B. Nafziger,	Partridge, Reno.
Asa Oaken Nash,	Manhattan, Riley.
William B. Naylor,	Morrowville, Washington.
Flora Belle Needham,	Osawatomie, Miami.
Elmer N. Nelson,	Keats, Riley.
John Francis Nevins,	Arrington, Atchison.
Ernest B. Newell,	Manhattan, Riley.
Harry Nighswonger,	Viola, Sedgwick.
G. Albert Nitcher,	Pomona, Franklin.
Laura B. Nixon,	Riley, Riley.
Ida Rose Nonamaker,	Osborne, Osborne.
Owen Norton,	Marquette, McPherson.
Will F. Obenhaus,	La Crosse, Rush.
Patsey O'Donnell,	Yates Center, Woodson.
Glen B. Oldfather,	Maize, Sedgwick.
Leroy Oldfather,	Maize, Sedgwick.
Arthur Leroy Olson,	Manhattan, (Geary).
Daniel O'Neill,	Hoyt, Jackson.
Arthur J. Ostlund,	Clyde, Washington.
Scott Overfield,	Baker, Brown.
William Charles Pacey,	Miltonvale, Cloud.
Fred Copeland Page,	Lincoln, Lincoln.
Hope Olive Palmer,	Geuda Springs, (Cowley).
William Bradford Palmer,	Sabetha, Nemaha.
Neoma Parker,	Linn, Washington.
Bessadell Parks,	Manhattan, Riley.
Nelson Paro,	Ames, Cloud.
Harold Albert Pennington,	Hutchinson, Reno.
Carl A. Peterson,	Topeka, Shawnee.
Harry Elmer Peterson,	Junction City, Geary.
Nathan Peterson,	Beloit, Mitchell.
Lucile Rose Phillips,	Kackley, Republic.
Samuel Clayton Phillips,	Walton, Harvey.
William C. Phinney,	Lebo, Coffey.
Robert Platt,	Ætna, Barber.
Roy Wade Poage,	Kackley, Republic.
Stanford Delos Pomeroy,	Phillipsburg, Phillips.
Fred Winter Pontius,	Lawrence, Douglas.
Walter Poppe,	Bern, Nemaha.
George F. Porter,	Caney, Montgomery.
Thomas B. Porter,	Richfield, Norton.
Harold Kenneth Powell,	Powhattan, Brown.
Harry Cassell Priddy,	Elmont, Shawnee.
Aaron Purdy,	Arkansas City, Cowley.
Daniel Milton Purdy,	Arkansas City, Cowley.
Lloyd Quilhot,	Parkerville, Morris.
Earle Ramage,	Little River, Rice.
Leaffa Laura C. Randall,	Manhattan, Riley.
Edith Randle,	Riley, Riley.

Name.	Post-office and county (or state).
Frank W. Ranney,	Osawatomie, Miami.
Joseph Reeser,	Logan, Phillips.
Eva Mary Reeves,	Manhattan, Riley.
Wray Robert Reeves,	Manhattan, Riley.
Cash W. Regan,	Esbon, Jewell.
Frank John Reida,	Rago, Kingman.
Katherine A. Reidy,	Junction City, Geary.
Mae Virginia Reidy,	Manhattan, Riley.
Dulcia Elizabeth Rendle,	Holycross, (Jackson).
George A. Rendle,	Holycross, (Jackson).
Guy Chester Rexroad,	Partridge, Reno.
Warren E. Rice,	Gypsum, Saline.
George Walter Robbins,	Great Bend, Barton.
Frank Robinson,	Great Bend, Barton.
May-beth Robison,	Manhattan, Riley.
Bertha May Romine,	Burlingame, Osage.
Arthur Henry Rose,	New Cambria, Saline.
Matthias Roseberry,	Osawatomie, Miami.
Eugene Ruede,	Manhattan, Riley.
David D. Rutledge,	Maplehill, Wabaunsee.
Ira Watson Ryan,	El Dorado, Butler.
Norton Sanders,	Osage City, (Lyon).
Vern Sargent,	Manhattan, Riley.
C. H. Schiedeman,	La Crosse, Rush.
Katie Schiedeman,	La Crosse, Rush.
George Schild,	Hanover, Washington.
Hugo Schild,	Hanover, Washington.
Fred Schlaefli,	Cawker City, Mitchell.
Francis A. Schroeder,	Lebanon, Smith.
Richard Schuppert,	Arrington, Atchison.
John Logan Scott,	Norway, Republic.
Buswell Edwin Seely,	Dresden, Decatur.
Kathleen Selby,	Manhattan, Riley.
Amelia Seng,	Salina, Saline.
Henry Seng,	Salina, Saline.
Stella Seng,	Salina, Saline.
Earl Sewell,	Garnett, Anderson.
Henry Shank,	St. John, Stafford.
Claude L. Shaw,	Eskridge, Wabaunsee.
Herbert Shearer,	Frankfort, Marshall.
Lloyd Hedrick Shepherd,	Hutchinson, Reno.
Archie James Shirley,	Grantville, Jefferson.
Agnes Lettitia Siegle,	Lost Springs, Marion.
Grace Evelyn Simpson,	Manhattan, Riley.
Walter Alvin Simpson,	Manhattan, Riley.
Walter Dorr Singleton,	Quincy, Greenwood.
Jay Sitterley,	Manhattan, Riley.
Lois A. Sitterley,	Manhattan, Riley.
Oscar Sitterley,	Manhattan, Riley.
John Slabach, jr.,	Conway, McPherson.
Charles William Slack,	Piqua, Woodson.

Name.	Post-office and county (or state).
Myrtle Slater,	Manhattan, Riley.
Harry Allen Smith,	Sabetha, Nemaha.
Laura May Smith,	Wamego, (Wabaunsee.)
Minnie V. Smith,	Clearmont, *Missouri.*
James William Snodgrass,	Barrett, Marshall.
Ira E. Snyder,	Alton, Osborne.
Otis C. Snyder,	Dodge City, Ford.
Amelia Socolofsky,	Tampa, Marion.
Ruben Soderquist,	Vliets, Marshall.
Luther O. Solt,	Zeandale, Riley.
Talmage Solt,	Manhattan, Riley.
Charles Clyde Spangler,	Auburn, Shawnee.
George H. Spark,	Topeka, Shawnee.
Burtis Leo Sprague,	Powhattan, Brown.
Frank Jacob Spuhler,	Manhattan, Riley.
Adolph Stahr,	Clay Center, Clay.
Lucian Robert Stanfield,	Chanute, Neosho.
Stephen O. Stanfield,	Alton, Osborne.
John Sherman Stauffer,	South Haven, Sumner.
John M. Stevens,	Abilene, Dickinson.
Segur E. Stillman,	Manhattan, Riley.
Edna Viola Stoddard,	Muscotah, Atchison.
Charles Fred Streeter,	Wakefield, Clay.
Walter W. Strite,	Manhattan, Riley.
Herbert C. Strom,	Dwight, Morris.
Harry Carl Sturdy,	Bradford, Wabaunsee.
Elton C. Swingle,	Manhattan, Riley.
May Swingle,	Manhattan, Riley.
Vernon Fisher Tannehill,	Wakefield, Clay.
Thomas Jefferson Taylor,	Coldwater, Comanche.
Charles E. Tede,	Rantoul, Franklin.
Clarence Test,	Herington, Dickinson.
Guy H. Thomas,	Waldo, Russell.
Irving Thomas,	Wilson, Ellsworth.
Henry Walter Toogood,	Maplehill, Wabaunsee.
Margaret Towers,	Manhattan, Riley.
James Trainor,	Moundridge, McPherson.
Clark Travelute,	Marysville, Marshall.
Elma Travelute,	Marysville, Marshall.
Henry J. Troemper,	Alma, Wabaunsee.
Earl Jay Trosper,	Beattie, Marshall.
Joe Theodore Tucker,	Lawrence, Douglas.
J. E. Tyrrell,	Sterling, Rice.
Dollie E. Urquhart,	Wamego, Pottawatomie.
Elliott VanEveren,	Manhattan, Riley.
Lonnie F. Vass,	Glasco, Cloud.
Clarence Dudley Vawter,	Topeka, Shawnee.
Ella Mariam Voiles,	Manhattan, Riley.
Henry W. Wagner,	Holton, Jackson.
Elwood L. Walker,	Dresden, Decatur.
Pearle Mabel Walker,	Lenape, Leavenworth.

Name.	Post-office and county (or state).
Ida R. Walls,	Irving, Marshall.
Catherine E. Washington,	Manhattan, Riley.
William George Waugh,	Eskridge, Wabaunsee.
Charles Alvin Waymire,	Home, Marshall.
Charles R. Wears,	Manhattan, Riley.
Francis Weber,	Monument, Logan.
Louise M. Wertenberger,	Waterville, Marshall.
Willard Ames Whitney,	Manhattan, Riley.
Effie Viola Wilcox,	Sylvangrove, Lincoln.
Lloyd D. Willis,	Manhattan, Riley.
Floyd Emera Wilson,	Soldier, Jackson.
James Arthur Wilson,	Valley Center, Sedgwick.
Oscar Benjamin Wilson,	Webber, Jewell.
Roy M. Wilson,	Concordia, Cloud.
Delia Pamelia Wing,	Carwood, Wichita.
Frederick William Winter,	Dover, Shawnee.
Alvin Ernest Wise,	Lawrence, Douglas.
Leslie B. Wise,	Clearwater, Sedgwick.
Harry Harold Wolff,	Topeka, Shawnee.
Nannie D. H. Woodbury,	Broughton, Clay.
W. George Woodsum,	Manhattan, Riley.
John Worley,	Natoma, Osborne.
Ray Curtis Worswick,	Oskaloosa, Jefferson.
Lory E. Wright,	Horton, Brown.
Frank E. Yarrow,	Wakefield, Clay.
Harry Ylander,	Vliets, Marshall.
Carrie York,	Dunlap, Morris.
John Delbert Zimmerman,	Lawrence, Douglas.

SPECIAL STUDENTS.

Harold H. Amos,	Manhattan, Riley.
George Henry Berenzen,	Desoto, Johnson.
Guy Marian Caldwell,	Garnett, Anderson.
Gertrude Eakin,	Manhattan, Riley.
Thomas N. Fish,	Manhattan, Riley.
David Emerson Gall,	Reserve, Brown.
Winifred Rae Hall,	Russell, Russell.
(Mrs.) Martha R. Hamaker,	Manhattan, Riley.
Alexander C. Hart,	Coffeyville, Montgomery.
Thomas Haslam,	Council Grove, Morris.
Alvalina Thankful Hill,	Manhattan, Riley.
Henry Hoffhines,	Marquette, McPherson.
Arthur H. Hoffman,	Arkansas City, Cowley.
Mabel Howell,	Manhattan, Riley.
Walter A. Korb,	Hoxie, Sheridan.
Andrew DeLos McCampbell,	Manhattan, Riley.
Lyman S. Miller,	Dighton, Lane.
James M. Montague,	Mound City, Linn.
Alice E. O'Brien,	Manhattan, Riley.
J. L. Pelham,	Manhattan, Riley.
Arthur Clinton Plake,	Ottawa, Franklin.

Name.	Post-office and county (or state).
Anna Praeger,	Claflin, Barton.
Mettie Antoinette Reser,	Bigelow, Marshall.
Nora Richards,	Athol, Smith.
Jay F. Ross,	Manhattan, Riley.
Martin G. Smith,	Waverly, Coffey.
Milton David Snodgrass,	Manhattan, Riley.
Nona Steel,	Manhattan, Riley.
Fred Lawrence Williams,	Olpe, Lyon.
David H. Zuck,	Manhattan, Riley.

DAIRY SHORT COURSE.

William Louis Bartholomees,	Manhattan, Riley.
Thomas W. Bower,	Manhattan, Riley.
Edwin Lloyd Cole,	Manhattan, Riley.
Harvey Ralph Desler,	Kansas City, Wyandotte.
Edward S. Dolph,	McLouth, Jefferson.
Carl M. Frame,	Manhattan, Riley.
Quarton W. Harrison,	Manhattan, Riley.
Paris N. Hershey,	Abilene, Dickinson.
Peter H. Jorgenson,	Logan, Phillips.
Thomas Joseph Kitchell,	Wichita, Sedgwick.
Horace Grover McAllister,	Manhattan, Riley.
Frank McLaren,	Hope, Dickinson.
Chas. O. Peterson,	Monument, Logan.
Pontus Henry Ross,	Webber, Jewell.
O. A. Torrey,	Rosalia, Butler.
Lee L. Urquhart,	Wamego, Pottawatomie.
Waldo Whitman,	Lawrence, Douglas.
Stephen Irenæus Wilkin,	Bow Creek, (Rooks).
Robert Wilson,	Miltonvale, Cloud.

FARM DAIRY SHORT COURSE.

Guy Marion Caldwell,	Garnett, Anderson.
Roy Gilmore,	Oneida, Nemaha.
Luther O. Lindley,	Rose Hill, Butler.
Enos Martin,	Abilene, Dickinson.
Charles Malven Wilson,	Garnett, Anderson.

FARMERS' SHORT COURSE—Second Term.

Theodore Aeilts,	Inman, McPherson.
Jay Bardshar,	Mounthope, Sedgwick.
Harry L. Burnett,	Arkansas City, Cowley.
Tom Ford Capsey,	Soldier, Jackson.
Harold Dahl,	Webber, Jewell.
Alvin Eshelman,	Acme, Dickinson.
Walter William Goddard,	Minneapolis, Ottawa.
Roy Raymond Goodin,	Derby, Sedgwick.
Charles Elmer Hall,	Kensington, Smith.
Charles A. W. Haseltine,	Manhattan, Riley.
Claude L. Hendricks,	Glenelder, Mitchell.
Alfred W. Isern,	Ellinwood, Barton.

Name.	Post-office and county (or state).
John M. Kugler,	Abilene, Dickinson.
Coy Lupher,	Linn, Washington.
William L. Meuser,	Anson, Sumner.
George Miller,	Milford, Geary.
Arthur D. Perry,	Oskaloosa, Jefferson.
Edwin Henry Peter,	Randolph, Riley.
Carl Arthur Rumph,	Barclay, Osage.
James David Rymph,	Harper, Harper.
August W. Seng,	Salina, Saline.
Homer Charles Stevenson,	Beverly, Lincoln.
Everett W. Titterington,	Lawrence, Douglas.
Omer Herren Todd,	Coldwater, Comanche.
Earle R. Trout,	Pratt, Pratt.

FARMERS' SHORT COURSE—First Term.

Seth Andrew Abbott,	Dalton, Sumner.
Elmore Walters Albright,	Brewster, Sherman.
Homer Emory Baker,	Washington, Washington.
George Marshall Boggs,	Beattie, Marshall.
Ona Vantuyl Boston,	Washington, Washington.
Dan W. Circle,	Hazelton, Barber.
Earl Clayworth,	Harper, Harper.
Robert Jefferson Coursen,	Simpson, Mitchell.
Cyrus James Creighton,	Morrowville, Washington.
Bjorn Dahl,	Montrose, Jewell.
Clarence H. DeLong,	Emporia, Lyon.
Earl J. DeLong,	Emporia, Lyon.
Nelson C. Dewey,	Seward, Stafford.
Charles Dickson,	Carbondale, Osage.
Edwin A. Evenson,	Claflin, Barton.
Patrick Henry Fehily,	Holycross, (Jackson).
William Ferguson,	Westmoreland, Pottawatomie.
Harry Ottis Gibson,	Arkansas City, Cowley.
George A. Greenland,	Mankato, Jewell.
John S. Greenlund,	Clifton, Washington.
Harmon Haag,	Holton, Jackson.
Richard D. Hall,	Potter, Atchison.
Ellis M. Hallock,	Milo, Lincoln.
Claude N. R. Hansen,	Jamestown, Cloud.
Lee Harshaw,	Oswego, Labette.
Alexander C. Hart,	Coffeyville, Montgomery.
Rudolph Hobbie,	Tipton, Mitchell.
Glenn Huss,	Mounthope, Sedgwick.
Albert G. Janke, jr,	Claflin, Barton.
Charles Judd,	Irving, Marshall.
Henry T. Kasl,	Concordia, Cloud.
Orien Kirkpatrick,	Montrose, Jewell.
Charles Albert Klein,	Reece, Greenwood.
Thomas S. Kutis,	Bremen, Marshall.
Logan Laughlin,	Westmoreland, Pottawatomie.
John Arthur Lind,	Saffordville, Chase.

Name.	Post-office and county (or state).
Glen Livers,	Waterville, Marshall.
Ernest Arthur Lund,	Manhattan, (Pottawatomie).
J. W. McConnell,	Cherryvale, (Labette).
Fred H. McCue,	Cleveland, Kingman.
George Ernest McNeil,	Centralia, Nemaha.
Fred W. Maelzer,	Centralia, Nemaha.
J. W. Mercer,	Geuda Springs, Sumner.
Ernest Richard Miller,	Sabetha, Nemaha.
Harry Nighswonger,	Viola, Sedgwick.
Edward Nulik,	Caldwell, Sumner.
Arthur L. Olson,	Manhattan, (Geary).
Scott Overfield,	Baker, Brown.
Victor Palmquist,	Concordia, Cloud.
Clyde E. Phinney,	Lebo, Coffey.
Brooke Pontius,	Lawrence, Douglas.
Fred Winter Pontius,	Lawrence, Douglas.
Delbert Henry Rasmussen,	Clyde, Cloud.
Bright W. Reber,	Morrill, Brown.
David Rhodes,	Hope, Dickinson.
Conrad Rice,	Hiawatha, Brown.
Albert T. Robert,	Osage City, Osage.
Matthias Roseberry,	Osawatomie, Miami.
Gustav Adolph Ross,	Montrose, Jewell.
Clarence A. Rundell,	Darlow, Reno.
John Wesley Rymph,	Harper, Harper.
August Severson,	Randall, Jewell.
Milton E. Siebert,	Canada, Marion.
Elwin Spencer,	Belleville, Republic.
Edward Stegeman,	Tampa, Marion.
Herbert C. Strom,	Dwight, Morris.
James J. Subera,	Blackstone, Sumner.
John Lee Teagarden,	La Cygne, Linn.
John Augustus Tharp,	Winfield, Cowley.
Eugene Thille,	Cawker City, Mitchell.
Lewis Pierce Tudor,	Holton, Jackson.
William Tudor,	Holton, Jackson.
Guy Manley Veburg,	Ottawa, Franklin.
August Zacharias,	Oak Mills, Atchison.

DOMESTIC SCIENCE SHORT COURSE—Second Term.

Elsie V. Anderson,	Randolph, Riley.
Hilma E. Anderson,	Manhattan, Riley.
Alice C. Ballou,	Delphos, Ottawa.
Cora Ethereal Blanchard,	Delphos, Ottawa.
Bertha Inez Braman,	Agra, Phillips.
Anna Barbara Brant,	Wichita, Sedgwick.
Anna Brunker,	Manhattan, Riley.
Sadie Burr,	Manhattan, Riley.
Katherine Pearle Campbell,	Abilene, Dickinson.
Amanda C. Christianson,	Corning, Nemaha.
Emma C. Deere,	Manhattan, Riley.

Name.	Post-office and county (or state).
Ella Florence DeWyke,	Randolph, Riley.
Gertrude Eakin,	Manhattan, Riley.
Gretta H. Greeley,	Manhattan, Riley.
Winifred Rae Hall,	Russell, Russell.
Emma A. Hanson,	Olsburg, Pottawatomie.
Anna Marie Hill,	Melvern, Osage.
Jennie Hoffhines,	Marquette, McPherson.
Jessie Honnell,	Horton, Brown.
Mary Bruce Inskeep,	Manhattan, (Pottawatomie).
Ruth Inskeep,	Manhattan, Riley.
Agnes Jenista,	Caldwell, Sumner.
Pearl Jenkins,	Manhattan, Riley.
Nellie Louise Johnson,	Vermilion, Marshall.
Edith Ellen Jones,	Cawker City, Mitchell.
Esta Keller,	Horton, Brown.
Maude Kimball,	Topeka, Shawnee.
Nellie Kimble,	Manhattan, Riley.
Louie Elizabeth Lantis,	Sedgwick, Harvey.
Anna Lofstedt,	Herington, Dickinson.
Elsie Lupher,	Linn, Washington.
Gertrude May Moore,	Pratt, Pratt.
Della Murphy,	Manhattan, Riley.
Marie Olsen,	Willis, Brown.
(Mrs.) Mary Smith Paddock,	Manhattan, Riley.
Carrie L. Post,	Lawrence, Douglas.
Leala Rich,	Emporia, Lyon.
Ariel Shaw,	Plainville, Rooks.
(Mrs.) Muriel Slason,	Plainville, Rooks.
Jennie E. Smith,	Topeka, Shawnee.
Nona Steele,	Manhattan, Riley.
Anna C. Throbeck,	Norway, Republic.
Minnie VanPatten,	Centralia, Nemaha.
Estelle E. Wadsworth,	Manhattan, Riley.
Maude Williams,	Haven, Reno.
Inze Mary Worswick,	Oskaloosa, Jefferson.

DOMESTIC SCIENCE SHORT COURSE—First Term.

Ruth Adee,	Wells, Ottawa.
Mary Etta Allison,	Lyndon, Osage.
Mildred Burr,	Manhattan, Riley.
Jessie Lura Dix,	Manhattan, Riley.
Edith E. Finlayson,	Summerfield, Marshall.
Ressa Foresman,	Manhattan, Riley.
Maggie Gilman,	Osage, Osage.
Alfie Gronquist,	Irving, Marshall.
Kate M. Hutchinson,	Bellaire, Smith.
Ethel Claire Lane,	Oskaloosa, Jefferson.
Theodosia Lofinck,	Manhattan, Riley.
Almina Viola Murphy,	Manhattan, Riley.
Ruby Angelina Myers,	Manhattan, Riley.
Julia Nelson,	Montrose, Jewell.

Name.	Post-office and county (or state).
Sadie May Peterson,	Lyndon, Osage.
Mary Chrystena Smith,	Enterprise, Dickinson.
Myrtle Laura Smith,	Enterprise, Dickinson.
Lena Vinsonhaler,	Bellaire, Smith.
LaVena Esther Wells,	Kiowa, Barber.
Kittie L. Williams,	Manhattan, Riley.
Emma M. Zimmerman,	Enterprise, Dickinson.

DOMESTIC SCIENCE—SUMMER TERM.

Pearle Akin,	Manhattan, Riley.
Clara Grace Alexander,	Manhattan, Riley.
Jessie Mary Ballou,	Delphos, Ottawa.
Helen Elizabeth Bottomly,	Manhattan, Riley.
Eva Maggy Burtner,	Manhattan, Riley.
Mamie Grace Cunningham,	Delphos, (Cloud).
Trena Dahl,	Webber, Jewell.
Perylle Avis Embry,	Ottawa, Franklin.
Frances Walker Fish,	Manhattan, Riley.
Mildred I. Kirkwood,	Marysville, Marshall.
Nina H. Kirkwood,	Marysville, Marshall.
Emma Landgraf,	Hoyt, Jackson.
Gertrude Lewis,	Topeka, Shawnee.
Sara Grace McCrone,	Haddam, Washington.
Walter E. Mathewson,	Topeka, Shawnee.
Abbie Elida Putnam,	Manhattan, Riley.
Nellie Eva Rickman,	Manhattan, Riley.
Sophia Schmidler,	Marysville, Marshall.
Bertha Florence Sweet,	Manhattan, Riley.
Jessie Leona Travis,	Oakley, Logan.
Rebecca Rees Washington,	Manhattan, Riley.

APPRENTICES IN SHOPS.

Edmund Buckley,	Ames, Cloud.
George L. Graves,	Kiowa, Barber.
Joseph H. Harlin,	Tonganoxie, Leavenworth.
Nathaniel Lagerstrom,	Axtell, Marshall.
Roy V. Mitchell,	Groveland, McPherson.
Arthur G. Parkhurst,	Newton, Harvey.
Frank W. Reeves,	Manhattan, Riley.
David W. Socolofsky,	Tampa, Marion.
Scott Wilson,	Ozawkie, Jefferson.

BOILER AND ENGINE APPRENTICES.

Isaac N. Buckley,	Aurora, Cloud.
John W. Munson,	Atchison, Atchison.

APPRENTICE IN PRINTING.

Louie Grace Morgan,	Smith Center, Smith.

SUMMARY.

Classes.	*Men.*	*Women.*	*Totals.*
Graduate	10	16	26
Senior	73	44	117
Junior	82	40	122
Sophomore	127	71	198
Freshman	190	99	289
Preparatory	376	124	500
Special	20	10	30
Dairy	24	.....	24
Farmers' Short Course	99	.....	99
Domestic Science Short Course	1	87	88
Apprentices	11	1	12
Counted twice	21	22	43
Totals	992	470	1,462

From ninety-five counties of Kansas, 1450.
From five other states, 12.

RECORD OF ATTENDANCE.
1879-1905.

College Year.	Domestic science short course	Farmers' short course	Dairy	Apprentice	Special	Preparatory*	First year	Second year	Third year	Fourth year	Postgraduate	Counted twice	Total	Graduated
1878-79	....	....	....	....	1	....	89	89	16	12	....	....	207	9
1879-80†	....	....	....	....	1	....	166	61	35	11	2	....	276	7
1880-81‡	....	....	....	....	6	....	178	48	24	9	2	....	267	8
1881-82	....	....	....	....	5	....	227	50	19	11	....	....	312	9
1882-83	....	....	....	....	4	....	241	60	30	12	....	....	347	12
1883-84	....	....	....	....	2	....	255	92	26	18	2	....	395	17
1884-85	....	....	....	....	2	....	271	71	36	16	5	....	401	14
1885-86	....	....	....	....	1	....	273	91	35	24	4	....	428	21
1886-87	....	....	....	....	....	....	303	100	44	24	10	....	481	21
1887-88	....	....	....	....	....	....	305	92	46	27	2	....	472	22
1888-89†	....	....	....	....	....	....	266	103	41	28	7	....	445	25
1889-90	....	....	....	....	1	....	307	105	63	28	10	....	514	27
1890-91†	....	....	....	....	....	....	343	135	50	53	12	....	593	52
1891-92	....	....	....	....	....	....	336	139	62	37	10	....	584	35
1892-93	....	....	....	....	....	....	339	110	66	43	29	....	587	39
1893-94	....	....	....	....	....	....	275	141	72	42	25	....	555	39
1894-95	....	....	....	....	5	....	276	108	89	64	30	....	572	57
1895-96	....	....	....	....	3	....	353	121	67	71	32	....	647	66
1896-97*	....	....	....	....	6	67	321	163	69	62	46	....	734	55
1897-98	....	....	6	9	15	77	316	174	77	82	57	10	803	69
1898-99	....	....	26	35	40	110	306	177	92	65	40	21	870	53
1899-00†	24	47	57	50	32	162	376	163	109	69	27	22	1094	58
1900-01	47	109	72	79	23	318	348	183	80	74	40	52	1321	60
1901-02	41	125	66	87	19	298	396	206	120	65	32	59	1396	52
1902-03	63	123	38	78	36	342	471	229	141	86	24	57	1574	54
1903-04†	51	122	16	72	33	443	403	206	161	114	20	36	1605	102
1904-05†	88	99	24	12	30	500	289	198	122	117	26	43	1462	....

* Previous to 1896-'97 the preparatory students were not listed separately from the first-years.
† Requirements for admittance raised. ‡ Course strengthened.

Graduates.

This list is made from the best data obtainable. A favor will be conferred by notifying the College Secretary of any errors or changes.

1867.

Henry L. Denison, A. M., 1257 Clarkson street, Denver, Colo. Official court stenographer.

Belle M. (Haines) Pond, A. M., 1821 Clay street, Topeka, Kan. Housewife.

Emma Laura (Haines) Bowen, A. M., Manhattan, Kan. Field secretary W. B. M. I.

John J. Points, A. M., box 1057, Omaha, Neb. Secretary Kitchen Bros. Hotel Company.

Martha A. (White) Abbott, A. M., 288 Oakley boulevard, Chicago, Ill. Housewife.

1871.

Emily M. (Campbell) Robinson, A. B. Died in 1877.

Ellen F. (Denison) Whedon, A. B., 1845 D street, Lincoln, Neb. Housewife.

Luella M. Houston, A. B., 1216 South Tenth street, Denver, Colo. Music teacher.

Charles O. Whedon, B. S., 1845 D street, Lincoln, Neb. Lawyer.

Kate E. (White) Turley, A. B., 973 Jackson boulevard, Chicago, Ill. Housewife.

1872.

Theophania M. (Haines) Huntington, A. B. Died in 1880.

Albert Todd, A. M., St. Paul, Minn. Major artillery corps, military secretary's department, United States army.

Samuel Wendell Williston, A. M., M. D., Ph. D., Walker Museum, University of Chicago, Chicago, Ill. Professor of paleontology.

1873.

Eliza Z. (Davis) Stringfield, A. B., 1111 Santee street, Los Angeles, Cal. Housewife.

Sam Kimble, A. B., Manhattan, Kan. Judge twenty-first district.

1874.

Harry A. Brous, A. M., M. D., Manhattan, Kan. Physician.

Edgar F. Clark, A. B.

John E. Davis, B. S., D. D. S., 1143 Oak street, Columbus, Ohio. Dentist; miner and shipper of coal.

William D. Gilbert, A. B. Government inspector of rural mail routes.

A. Judson White, A. B., 288 Oakley boulevard, Chicago, Ill. Minister.

1875.

Reuben E. Lofinck, B. S., Manhattan, Kan. Merchant.

Alice E. (Stewart) Points, A. M., 40 Vroom street, Jersey City, N. J. Teacher city schools.

1876.

George A. Gale, A. B., Mangonia, Fla. Merchant and postmaster.
Ella M. (Gale) Kedzie, A. B., Michigan Agricultural College. Teacher of art.
Nellie (Sawyer) Kedzie-Jones, M. S., 421 Pearl street, Kalamazoo, Mich. Housewife.
Carrie M. Kimball, A. B., R. F. D. No. 2, Santa Ana, Cal. Housekeeper.
Minerva E. (Whitman) Heiser, A. B., Lyndon, Kan. Housewife.

1877.*

Ella S. Child, Manhattan, Kan. Dressmaker.
George H. Failyer, M. S., Washington, D. C. Scientist in bureau of soils, United States Department of Agriculture.
John S. Griffing, M. S., R. F. D. No. 16, Tecumseh, Kan. Farmer.
Walter C. Howard, Newcastle, Placer county, California. Minister.
Frederick O. Hoyt, M. D. Died in 1884.
Louis E. Humphrey, Chapman, Kan. Druggist.
James F. La Tourette, Sitka, Alaska. Assistant, Sitka Industrial Training School.
Marion F. Leasure, LL. B., La Cygne, Kan. Lawyer.
William Ulrich, M. S., Chautauqua, Ill.

1878.*

Albert N. Godfrey, M. S., box 272, Port Townsend, Wash. Deputy collector, United States customs service.
Charles S. McConnell. Died in 1902.
George S. Platt. Died in 1878.
Amos E. Wilson, 1008 S. Fourth street, Leavenworth, Kan. Bank cashier and president Missouri Valley Bridge and Iron Company.

1879.*

Arthur T. Blain, Duarte, Cal. Nurseryman.
Etta (Campbell) Blain, Duarte, Cal. Housewife.
Wilmer K. Eckman, Longview, Tex. Bank cashier.
Corvin J. Reed, R. F. D. No. 1, Havensville, Kan. Farmer.
Harry C. Rushmore, 2024 North Fifth street, Kansas City, Kan. Traveling salesman for Norvell-Shapleigh Hardware Company.
Wm. H. Sikes, Leonardville, Kan. Merchant.
Lewis A. Salter, Carmen, Okla. Attorney at law.
Ella (Vincent) McCormick, Clay Center, Kan.
Clarence E. Wood, A. B., Cherokee, Okla. Editor.

1880.*

Augustine Beacham. Died about 1890.
Lizzie R. (Cox) Kregar, 503 W. First street, Junction City, Kan. Housewife.
Emma (Hoyt) Turner, Fort Scott, Kan. Housewife.
Emma (Knostman) Huse, Manhattan, Kan. Housewife.
Grace (Parker) Perry, Pocatello, Idaho. Housewife.
Noble A. Richardson, 780 Fifth street, San Bernardino, Cal. Merchant.
Marie E. (Sickels) Davis. Died in 1894.

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*B. S. has been granted all graduates since 1877.

1881.*

Flora (Donaldson) Reed, R. F. D. No. 1, Havensville, Kan. Housewife and journalist.

Ulysses Grant Houston, Amherst, Mass. Lecturer on Bible lands and archæology.

Fletcher M. Jeffery, 612 New York block, Seattle, Wash. Lawyer.

William J. Jeffrey. Died in 1900.

Darwin S. Leach.

William J. Lightfoot, Montrose, Colo. Engineer United States reclamation service.

Dalinda (Mason) Cotey, 210 W. First South street, Logan, Utah. Dean of school of domestic science and arts, State Agricultural College of Utah.

Wirt S. Myers, P. O. box 796, Pensacola, Fla. Pattern-maker in department of steam engineering, Pensacola navy-yard.

1882.*

J. Chester Allen. Died in 1885.

Ida (Cranford) Sloan, 2524 Gould avenue, Fort Worth, Tex. Housewife.

Edward V. Cripps.

Warren Knaus, M. S., 512 S. Main street, McPherson, Kan. Editor and proprietor of *Democrat*.

Mattie E. (Mails) Coons, Manhattan, Kan. Housewife.

Allie S. (Peckham) Cordry, 1231 Forest avenue, Parsons, Kan. Housewife.

Belle (Selby) Curtice, 604 American Bank, Kansas City, Mo. Housewife.

Burton L. Short, 330 North Seventh street, Kansas City, Kan. Assistant postmaster.

John A. Sloan, Corpus Christi, Tex. United States meat inspector.

1883.*

James W. Berry, Jewell, Kan. Lumberman and contractor; Regent Kansas State Agricultural College.

Mary C. (Bower) Ady, Romulus, Okla. Housewife.

Lewis W. Call, LL. M., D. C. L., 1660 Sheridan avenue, Washington, D. C. Chief clerk, judge-advocate general's office, United States War Department.

Emma E. Glossop, 1326 Francis street, St. Joseph, Mo. Journalist.

William J. Griffing, R. F. D. No. 1, Manhattan, Kan. Farmer and fruit-grower.

Phœbe E. Haines, M. S., Manhattan, Kan. At home.

Hortense L. (Houston) Martin, 501 Warren street, Miami, I. T. Housewife.

Jacob Lund, M. S., Manhattan, Kan. Superintendent of heat and power department, Kansas State Agricultural College.

Katie I. (Meguire) Sheldon.

J. Dana Needham, Lane, Kan. Merchant.

Milan T. Ward, M. D., Toulon, Ill. Physician.

Julius T. Willard, M. S., Manhattan, Kan. Professor of chemistry, Kansas State Agricultural College; director Experiment Station.

1884.*

Emmett S. Andress, Lakin, Kan. Farmer.

Florence J. Brous, 903 Minnesota avenue, Kansas City, Kan. Teacher of history in high school.

Bartholomew Buchli, M. S., D. V. S., Alma, Kan. Farmer and stockman.

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*B. S. has been granted all graduates since 1877.

John H. Calvin, LL. B. Died in 1898.
William A. Corey, Los Angeles, Cal., care of "Common Sense."
Henry M. Cottrell, M. S., Elgin, Ill. Cottrell Feed Company.
Carrie F. (Donaldson) Brown. Died in 1902.
Florence A. Donaldson. Died in August, 1888.
Frank W. Dunn.
I. Day Gardiner. Died in 1899.
Edwin H. Kern, 537 Main street, Grand Junction, Colo. Civil engineer.
Marion M. Lewis. Died in 1895.
Charles L. Marlatt, M. S., 1440 Massachusetts avenue, N. W., Washington, D. C. Entomologist in charge of experimental field-work, United States Department of Agriculture.
Lincoln H. Neiswender, Silver Lake, Kan. Farmer.
Geo. C. Peck, Junction City, Kan. Grain buyer and agent for Midland Elevator Company.
Hattie L. (Peck) Berry, Jewell, Kan. Housewife.
John W. Shartel, Oklahoma, Okla. Lawyer.

1885.*

Thomas Bassler, R. F. D. No. 2, Ponca, Okla. Farmer.
Albert Deitz, 2747 Holly street, Kansas City, Mo. Grocer and butcher.
Geo. E. Hopper, M. S., 303 N. Third street, Arkansas City, Kan. Contractor.
Florence F. Hough, Great Bend, Kan.
Frank A. Hutto, M. S., Ph. D., Stillwater, Okla. Professor of history and political economy, Oklahoma Agricultural and Mechanical College.
J. Allen Lewis, M. S., C. E., 377 Eighth street, Brooklyn, N. Y. Civil engineer.
Nellie J. Murphy, Sterling, Kan. Nurse.
Arthur L. Noyes, R. F. D. No. 1, Zeandale, Kan. Farmer and stock-raiser.
Clarence D. Pratt, 347 Elm street, Dallas, Tex. Secretary Lincoln Paint and Color Company.
Rollin R. Rees, Minneapolis, Kan. District judge.
Frederick J. Rogers, M. S., 4 Lasnen street, Stanford University, Cal. Assistant professor of physics, Leland Stanford Jr. University.
Dorothy E. C. (Secrest) Hungerford, Randolph, Kan. Housewife.
Grace L. Wonsetler, M. D., R. F. D. No. 1, Hoisington, Kan. Physician.
Effie E. (Woods) Shartel, Oklahoma, Okla. Housewife.

1886.*

Lillie B. Bridgman, M. S., 530 Guerrero street, San Francisco, Cal. Teacher of physics, California School of Mechanical Arts.
Louis P. Brous, M. S., 2289 Apartado, Mexico City, Mexico. Engineer-architect for La Internacional S. A.
Paul Halsted Fairchild, M. D., 160 William street, New York city. Manufacturing chemist and president Pulvola Chemical Company.
Abbott M. Green, Lookout, Modoc county, California. Civil engineer and real-estate agent.
James G. Harbord, M. S., Zamboanga, Mind., P. I. Captain United States army, Eleventh cavalry, assistant chief Philippine constabulary.
John U. Higinbotham, 205 La Salle street, Chicago, Ill. Assistant treasurer of National Biscuit Company.

*B. S. has been granted all graduates since 1877.

Maria C. (Hopper) Getty, Downs, Kan. Housewife.
E. Ada (Little) MacEwan, 314 Elm street, Kalamazoo, Mich. Housewife.
Frank L. Parker, Hutchinson, Kan. Stock-raiser and fruit-grower.
Edward H. Perry, 231 W. Twelfth street, Oklahoma, Okla. Real-estate broker.
H. Augustus Platt. Died in 1903.
Ada H. (Quinby) Perry, 231 W. Twelfth street, Oklahoma, Okla. Housewife.
Ida H. (Quinby) Gardiner, 1514 Laguna street, Santa Barbara, Cal. Housewife.
Minnie Reed, M. S., Kamehameha manual school, Honolulu, H. I. Teaching geography, physiography and English in manual-training school for native boys.
David G. Robertson, 153 La Salle street, Chicago, Ill. Lawyer.
Edward O. Sisson, A. B., 101 Fayerweather street, Cambridge, Mass. Graduate scholar in education and philosophy, Harvard University.
John W. Van Deventer, box 653, Denver, Colo. Writer.
George W. Waters, Dillon, Colo. Stock-raiser and dairyman.
William E. Whaley, 117 Maroon heights, Chicago, Ill. Instructor at University of Chicago.
F. Henrietta (Willard) Calvin, Manhattan, Kan. Professor of domestic science, Kansas State Agricultural College.
John L. Wise, Pocahontas, Ill. Dealer in hay and live stock.

1887.*

Edgar A. Allen, U. S. Indian office, Washington, D. C. Special United States Indian agent.
Fred H. Avery. Died in 1896.
Claude M. Breese, M. S., Manhattan, Kan. County clerk.
John B. Brown, M. S., Morris, Minn. Superintendent Indian industrial school.
Walter J. G. Burtis, R. F. D. No. 2, Fredonia, Kan. Farmer and stock-breeder.
Mark A. Carleton, M. S., 3409 Brown street, Washington, D. C. Cerealist in bureau of plant industry, United States Department of Agriculture.
Nellie E. (Cottrell) Stiles, Fullerton, Cal. Housewife.
Bert R. Elliott, Dawson City, British Yukon Territory. Miner.
Frederick B. Elliott, Manhattan, Kan. Real-estate and insurance agent.
Clara M. Keyes, Warner, Cal. Teacher.
Fred. G. Kimball, Nome, Alaska. Miner.
Frederick A. Marlatt, Manhattan, Kan. Proprietor Blue Valley Manufacturing Company.
William J. McLaughlin.
Mary E. Moses, Manhattan, Kan. At home.
Charles A. Murphy, Nickerson, Kan. Editor and proprietor of the *Argosy*.
Orlando G. Palmer, LL. M., Manila, P. I. Second lieutenant, Seventh United States cavalry.
Louis B. Parker. Died in 1889.
James E. Payne, M. S., Buena Vista, Colo. Agriculturist and plant-breeder for American Crude Rubber Company.
Seward N. Peck, Railway Exchange building, Chicago, Ill. Chief draftsman for Santa Fe system.
George N. Thompson, Belmond, Iowa. Mechanic.
Willis M. Wright, Jennings, La. Assayer in oil refinery.

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*B. S. has been granted all graduates since 1877.

1888.*

Grant Arnold, Toledo, Wash. General merchandise and house furnishings.
Bertha H. Bacheller, M. S., 3123 Campbell street, Kansas City, Mo. Director of domestic science, manual-training high school.
Clement G. Clarke, 601 Sixth street, S. E., Minneapolis, Minn. Pastor of First Congregational church.
Alexander C. Cobb, Wagoner, I. T. Farmer and carpenter.
Mattie (Cobb) Clarke, 601 Sixth street, S. E., Minneapolis, Minn. Housewife.
Minnie H. Cowell, Steyning, Sussex, England. Trained nurse.
Lyman H. Dixon, 36 E. Twentieth street, New York city. Architect.
David G. Fairchild, M. S., Washington, D. C. Agricultural explorer, in charge of foreign explorations, United States Department of Agriculture.
Carl E. Friend, Soldier, Kan. Lumberman.
John R. Harrison, Federal building, Kansas City, Mo. Post-office inspector in charge.
Humphrey W. Jones, 1251 Lincoln street, Topeka, Kan. Principal of Branner school.
Nathan E. Lewis, 169 N. Jefferson street, Newcastle, Pa. Draftsman Carnegie Steel Company,
Abby L. Marlatt, M. S., 272 Benefit street, Providence, R. I. Teacher household economics and assistant principal, technical high school.
William C. Moore, Parsons, Kan. Editor and publisher.
Ernest F. Nichols, Columbia University, New York, N. Y. Professor of experimental physics at Columbia University.
Harry E. Robb, Eureka, Kan. Farmer and county surveyor.
Anna Snyder, Lebo, Kan. Telephone exchange.
Edwin H. Snyder, 2924 Gallup avenue, Denver, Colo. Editor and publisher.
Oliver L. Utter, A. M., S. T. B., 1902 Freeman avenue, Cincinnati, Ohio. Minister.
Aaron Walters. Died in 1892.
Lora L. (Waters) Beeler, M. S., Glen Ellyn, Ill. Housewife.
Daniel W. Working, R. F. D. No. 2, Capitol Hill station, Denver, Colo. County superintendent; writer; beekeeper.

1889.*

Emma A. Allen. Died in 1891.
Joseph W. Bayles, A. B., Onaga, Kan. Minister.
Walter R. Browning, Padonia, Kan. Grain dealer.
David E. Bundy, Julian, Neb. Minister.
Samuel S. Cobb, Wagoner, I. T. Postmaster and stockman.
Judson H. Criswell, Oswego, Kan. Foreman on Deming ranch.
Mattie I. (Farley) Carr, Winthrop, Okanogan county, Washington. Teacher.
Clarence E. Freeman, M. S., E. E., Armour Institute, Chicago, Ill. Director of department of electrical engineering.
Hattie L. (Gale) Sanders, Mangonia, Fla. Housewife.
John S. Hazen, 876 N. Jefferson street, Springfield, Mo. Observer in charge, United States weather office.
Albert B. Kimball, Fairland, I. T. Telephone exchange.
William Knabb, 301 N. Third street, Hiawatha, Kan. Cashier First National Bank.

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* B. S. has been granted all graduates since 1877.

Mary Cornelia Lee, Manhattan, Kan. City librarian.
Alonzo A. Mills, Anaheim, Cal. Fruit, nut and vegetable rancher.
Susan W. (Nichols) Eshelman, 926 Felix street, St. Joseph, Mo. Housewife.
Walter H. Olin, M. S., Fort Collins, Colo. Professor of agronomy, State Agricultural College.
Eli M. Paddleford, A. B., S. T. B., Birmingham, Kan. Minister.
Maude F. (Sayers) DeLand, lock box 390, Pittsburg, Pa. Housewife.
Florine (Secrest) Linderman, Capay, Yolo county, California. Housewife.
Stanley Snyder, Oskaloosa, Kan. Farmer.
Charles W. Thompson, D. D. S., Holton, Kan. Dentist.
Jane Chapin Tunnell, 218½ N. Hickory street, Joliet, Ill. Instructor in English, township high school.
Ina M. (Turner) Bruce, 4136 Connecticut street, St. Louis, Mo. Housewife.
Robert U. Waldraven, 314 S. Sixth street, Atchison, Kan. Minister.
Henry S. Willard, M. D., Manhattan, Kan. Physician and druggist.

1890.*

Samuel I. Borton, Olive street, Lamar, Colo. Agriculturist, American Beet Sugar Company.
Frank A. Campbell, B. A , 525 Kansas avenue, Topeka, Kan. Sign writer.
Arthur Fulton Cranston, LL. B., 1531 Stevens avenue, Parsons, Kan. Lawyer.
John Davis, Alva, Okla. Teacher of English, Oklahoma Normal School.
Grant W. Dewey, Manhattan, Kan. Photographer.
Charles J. Dobbs, 418 New York Beach, Seattle, Wash. Lawyer.
Charles W. Earle, 1942-1948 Curtis street, Denver, Colo. Signs.
Schuyler C. Harner, Keats, Kan. Merchant and grain dealer.
John W. Ijams, Fort Belknap agency, Harlem, Mont. Farmer in United States Indian service.
Bertha S. (Kimball) Dickens, M. S., Manhattan, Kan. Housewife.
Eusebia (Knipe) Curtis, 841 Garfield avenue, Kansas City, Kan. Housewife.
Nellie P. (Little) Dobbs, 418 New York Beach, Seattle, Wash. Housewife.
Ellsworth Thomas Martin, LL. B., 1402—100 Washington street, Chicago, Ill. Lawyer.
Silas C. Mason, M. S., Berea, Ky. Professor of horticulture and forestry, Berea College.
Wilton L. Morse, Mancos, Colo. Principal of school.
Albert E. Newman, Texas City, Tex. Carpenter and contractor.
Julia R. Pearce, bureau of soils, Washington, D. C. In charge of mechanical analysis laboratory, bureau of soils, United States Department of Agriculture.
Emil C. Pfuetze, Manhattan, Kan. Lumber dealer.
William H. Sanders, Mangonia, Fla. Plumber and builder.
Emma Secrest, A. M. Died in 1898.
Marie Barbara (Senn) Heath, M. S., 3427 Colby ave., Everett, Wash. Housewife.
Ralph Snyder, Oskaloosa, Kan. Farmer and stockman.
George E. Stoker, A. B., 611 Kansas avenue, Topeka, Kan. Lawyer.
Walter T. Swingle, M. S., 3317 Seventeenth street, N. W., Washington, D. C. Physiologist, bureau of plant industry, United States Department of Agriculture.
Gilbert J. VanZile. Died in 1899.
Harry N. Whitford, M. S., Ph. D., Gov. laboratories, Manila, P. I. Botanist.
Thomas E. Wimer. Died in 1890.

*B. S. has been granted all graduates since 1877.

1891.*

William Aaron Anderson, 4218 W. Prospect Place, Kansas City, Mo. Manager Pacific coast lumber and shingle department, Long-Bell Lumber Company.

William Sherman Arbuthnot, D. V. S., Lebanon, Kan. Druggist.

Herman William Avery, R. F. D. No. 2, Wakefield, Kan. Farmer and breeder of Percheron horses.

Judd Noble Bridgman, M. S., A. B., 1224 Quindaro Boulevard, Kansas City, Kan. Civil engineer.

Robert James Brock, Manhattan, Kan. Lawyer.

Francis Charles Burtis, M. S., Stillwater, Okla. Professor of agriculture, Oklahoma Agricultural and Mechanical College.

Charles Albert Campbell, 2123 Lafayette street, Denver, Colo. Clergyman.

Spencer Norman Chaffee, M. D., Morganville, Kan. Physician and surgeon.

Clay Ephraim Coburn, M. D., 908 Orville avenue, Kansas City, Kan. Physician.

Gertrude Coburn, 424 Topeka avenue, Topeka, Kan. Domestic science teacher.

Tina Louise (Coburn) Tomson, 111 North Sixteenth street, Cedar Rapids, Iowa. Housewife.

Rachel Callie (Conwell) Thoburn, Guthrie, Okla. Housewife.

Christine Mossman Corlett, Guthrie, Okla. Teacher.

Mary Emmeline (Cottrell) Payne, M. S., Buena Vista, Colo. Housewife.

Phil Sheridan Creager, 3904 McGee street, Kansas City, Mo. Telegraph editor on Kansas City *Journal.*

Kary Cadmus Davis, M. S., Ph. D., Menomonie, Wis. Principal Dunn county school of agriculture and domestic economy.

Thomas Clarke Davis, Benedict, Kan. Farmer and oil prospector.

Helen Pearl (Dow) Peck, 269 Marlborough road, Brooklyn, N. Y. Housewife.

Anna (Fairchild) White, Palo Alto, Cal. Housewife.

Harry Benson Gilstrap, Chandler, Okla. Postmaster and publisher *News.*

Almon Arthur Gist, 1402 North Washington street, Junction City, Kan. Clerk, quartermaster's department, Fort Riley.

Amy Myrtle (Harrington) Deibler, 120 East Tenth street, Leadville, Colo. Housewife.

Delpha May (Hoop) Montgomery, Manhattan, Kan. Housewife.

Mayme Amelia (Houghton) Brock, Manhattan, Kan. Housewife.

Willis Wesley Hutto, Manhattan, Kan. Teacher in city schools.

George Victor Johnson, Cedarvale, Kan. Farmer.

Frank Mullett Linscott, D. V. S., Farmington, Kan. Farmer.

Bessie Belle Little, 2401 North College avenue, Philadelphia, Pa. Student, Woman's Medical College.

Albert Edward Martin, B. A.

Nellie Evangeline (McDonald) Thayer. Died in 1902.

David Collins McDowell, Elkton, Colo. Cashier, Colorado Trading and Transfer Company.

Alfred Midgley, Minneapolis, Kan. Manager lumber-yard.

Madeleine Wade Milner, 125 Locust street, DeKalb, Ill. Librarian, State Normal School.

Paul Chambers Milner, Carbondale, Ill. Farmer.

Harry Elbridge Moore, Watonga, Okla. Creamery and ice plant.

John Otis Morse, Mound City, Kan. Lawyer and county attorney.

Hattie May Noyes, R. F. D. No. 1, Zeandale, Kan. Book agent, International Publishing Company.

Louise (Reed) Paddleford, Birmingham, Kan. Housewife.

*B. S. has been granted all graduates since 1877.

Artemus Jackson Rudy, R. F. D. No. 1, Oleander, Cal. Fruit-grower.
Henry Vernon Rudy, R. F. D. No. 1, Fresno, Cal. Fruit-grower.
Charlotte Jane (Short) Houser, M. S., [B. S. Dickinson College, Carlisle, Pa.,] Temple, Tex. Housewife.
Ben Skinner, M. D., Wetmore, Kan. Physician and surgeon.
Caroline Scott (Stingley) Van Blarcom. Died in 1899.
Lillian Alice (St. John) Williams, 841 Osage avenue, Kansas City, Kan. Housewife.
Ellis Cheney Thayer, 2502 West Thirty-second avenue, Denver, Colo. Teacher mechanical drawing and manual training in high school.
Sam L. Van Blarcom, M. D., 817 Garfield avenue, Kansas City, Kan. Railway postal clerk.
Frank Albert Waugh, M. S., Amherst, Mass. Professor of horticulture in Massachusetts Agricultural College.
Fannie Elizabeth (Waugh) Davis, M. S., Menomonie, Wis. Housewife.
Flora Emilie Wiest, Manhattan, Kan. Teacher in city schools.
Bertha (Winchip) Spilman, 324 Fifth street, S. E., Washington, D. C. Housewife.
Alfred Orrin Wright, Siloam Springs, Ark. Insurance agent.
Effie Jeanetta Zimmerman, M. S., Moray, Kan. Chautauqua instructor and lecturer.

1892.*

Grace Maria Clark, M. S. Died in 1904.
George L. Clothier, M. S., M. F., Washington, D. C. Field assistant, bureau of forestry, United States Department of Agriculture.
Lillian Clyde Criner, McPherson, Kan. Editor and publisher of *Opinion*.
Harry A. Darnall, Lents, Ore. Principal of city schools.
William H. Edelblute, Rathdrum, Idaho. County surveyor and fruit-grower.
Elizabeth (Edwards) Hartley, Manhattan, Kan. Housewife.
John Frost, Schroyer, Kan. Farmer.
Effie (Gilstrap) Frazier, Chandler, Okla. Assistant postmaster.
Ava (Hamill) Tillotson, M. S., Newton, Kan. Student of pharmacy, Kansas University.
J N Harner. Died in 1897.
Loyall S. Harner, 1120 Hayes avenue, Colorado Springs, Colo. Employed by Portland Gold Mining and Milling Company.
Charles Pinckney Hartley, M. S., Washington, D. C. Assistant in bureau of plant industry, United States Department of Agriculture.
John William Abraham Hartley, Manhattan, Kan. Farmer.
James Laird McDowell, McCammon, Idaho. Rancher and market gardener.
Robert A. McIlvaine, Shoshone Agency, Wyo. Teacher in Government Indian school.
Kate (Oldham) Sisson, 1619 Highland street, Columbus, Ohio. Housewife.
Daniel Henry Otis, M. S., Oswego, Kan. Superintendent of Deming stock ranch.
Ivan Bryan Parker, M. D., Grant's Pass, Ore. Physician and surgeon; president Graham County State Bank, Hill City, Kan.; president Applegate Boom and Lumber Company, Grant's Pass, Ore.
Warner S. Pope. Died in 1899.
Burton Homer Pugh, drawer C, Topeka, Kan. B. H. Pugh Manufacturing Company.
Elias W. Reed, M. D., Holton, Kan. Physician and surgeon.

*B. S. has been granted all graduates since 1877.

Robert Stirling Reed, Simpson, Kan. Dealer in lumber and coal.
Arthur Daniel Rice, Strand, Neb. Minister.
Fred C. Sears, M. S., Truro, Nova Scotia. Horticulturist, Nova Scotia Agricultural College.
Birdie E. Secrest, D. S., Randolph, Kan. Clerk.
May Secrest, 175 W. Eleventh avenue, Columbus, Ohio. Associate professor of domestic art, Ohio State University.
Ruth Tipton (Stokes) Sears, M. S., Truro, Nova Scotia. Housewife.
Harry W. Stone, Y. M. C. A. building, Portland, Ore. General secretary Y. M. C. A.
Walter Percival Tucker, Aguascalientes, Aguas, Mexico. Accountant.
Mary Alice (Vail) Waugh, Amherst, Mass. Housewife.
Robert Lynn Wallis. Died in 1895.
Ora Rebecca (Wells) Traxler, Irving, Kan. Housewife.
Daniel F. Wickman, post-office box 107, Topeka, Kan. Nurseryman.
George Washington Wildin, Meadville, Pa. Mechanical superintendent, Erie railway company.
Charles Ernest Yeoman. Died in 1902.

1893.*

Edmund Clarence Abbott, 235 Cerrillos road, Santa Fe, N. M. District attorney and assistant solicitor general of New Mexico.
Edwin McMaster Stanton Curtis, 1300 Pennsylvania avenue, Washington, D. C. Rate clerk, general passenger office, Southern railway.
Corinne Louise (Daily) Burtis, Stillwater, Okla. Housewife.
Laura Greeley Day, Menomonie, Wis. Instructor of domestic economy, Dunn county school of agriculture and domestic economy.
Ione (Dewey) Sutherland, 3744 Lake avenue, Chicago, Ill. Stenographer, special assessment law department, city hall.
Albert Dickens, M. S., Manhattan, Kan. Professor of horticulture, Kansas State Agricultural College.
Mary Maud (Gardiner) Obrecht, M. S., 510 West High street, Urbana, Ill. Housewife.
Susie (Hall) Linscott, Farmington, Kan. Housewife.
Mary Frances Burgoyne Harman, high school, Kansas City, Kan. Teacher of drawing.
Ivy Frances Harner, M. S., Manhattan, Kan. Investigating schools of domestic science in Europe.
Margaretha Elise Horn, 874 Porter street, Detroit, Mich. Teacher of botany.
Marcia Ione Hulett, D. O., 1208 New England building, Cleveland, Ohio. Osteopathic physician.
Mac F. Hulett, D. O., 63 Wheeler building, 5½ West Broad, Columbus, Ohio. Osteopathic physician.
Fred Hulse, Manhattan, Kan. Contractor and carpenter.
Charles Augustus Kimball, Courtland, Kan. Editor and lawyer.
Maud Ethel Knickerbocker, Lead, S. Dak. Teacher city schools.
Thomas Eddy Lyon, LL. B., Sangamon Loan and Trust building, Springfield, Ill. Lawyer.
William Otis Lyon, West Philadelphia shops, Pennsylvania railway, Philadelphia, Pa. Clerk.

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McLeod Wilson McCrea, Winchester, Kan. Teacher.
Rose Edith McDowell, Elkton, Colo. At home.
George Lane Melton, University of Chicago, Chicago, Ill. Student.
Eusebia DeLong (Mudge) Thompson, Marysville, Kan. Housewife.
Nora (Newell) Hatch, R. F. D. No. 2, Manhattan, Kan. Housewife.
August Fred. Niemoller, Wakefield, Kan. Miller.
Susie Amanda Noyes. Died in 1894.
Henry Leamer Pellett, D. O., R. F. D. No. 4, Eudora, Kan. Breeder Red Polled cattle.
Charles John Peterson, Randolph, Kan. Farmer.
Carl Frederic Pfuetze, Manhattan, Kan. Railway postal clerk.
John Dewitt Riddell, M. D., Enterprise, Kan. Physician.
John Albert Rokes, Holton, Kan. Lawyer.
Agnes (Romick) Edgar, Sisson, Cal. Housewife.
Fred Raymond Smith, Manhattan, Kan. Lawyer and court stenograpner.
George Wildman Smith, M. D., 801 Linwood boulevard, Kansas City, Mo. Post-graduate student and lecturer at Kansas City Homeopathic Medical College; Physician.
William Elmer Smith, 800 New York Life building, Kansas City, Mo. Lawyer.
John Eugene Thackrey, S. T. B., 2746 Belleview avenue, Kansas City, Mo. Minister.
Joseph B. Thoburn, Guthrie, Okla. Secretary Territorial Board of Agriculture.
Charles Henry Thompson, M. S., St Louis, Mo. In charge of the succulent plants, Missouri Botanical Garden.
George K. Thompson. Died in 1905.
William James Yeoman, Mankato, Kan. Merchant and stock-raiser.

1894.*

Frank Weber Ames, room 519, Carnegie building, Pittsburg, Pa. Clerk, general agent's office, Carnegie Steel Company.
Clara Francelia Castle, M. S., Manhattan, Kan. At home.
George Luther Christensen, Houghton, Mich. Instructor in mechanical engineering, Michigan School of Mines.
John Cornelius Christensen, Manhattan, Kan. County treasurer.
Lorena Estella Clemons, Manhattan, Kan. Secretary Kansas State Agricultural College.
Martha Cottrell, Wabaunsee, Kan. At home.
Sarah Esther (Cottrell) Wright, Jennings, La. Housewife.
Alverta May Cress, 813 W. Tenth street, Topeka, Kan. Teacher city schools.
Fannie Jane Cress, 203 Washington street, Wheaton, Ill. Teacher, Escanaba, Mich.
Ernest A. Donaven, M. D., Mounthope, Kan. Physician.
Jephthah W. Evans, M. D., Council Grove, Kan. Physician and surgeon.
Isabelle Russell (Frisbie) Criswell, Oswego, Kan. Housewife.
Eugene Leonard Frowe. Died in 1898.
Walter Harling. Died in 1903.
Lorena Marguerite (Helder) Morse, 1100 W. Fortieth street, Kansas City, Mo. Housewife.
Mark V. Hester, 257 Cedar avenue, Cleveland, Ohio. Student Cleveland Bible Training School.

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Charles Ross Hutchings, 1013 W. Silver avenue, Argentine, Kan. Civil engineer.
Isaac Jones, jr., Etiwanda, Cal. Fruit-grower.
Stella Victoria (Kimball) Tucker, Aguascalientes, Aguas, Mexico. Housewife.
Mary Eliza (Lyman) Otis, M. S., Oswego, Kan. Housewife.
William Henry Moore, M. S., Manhattan, Kan. Florist and horticulturist.
Sarah (Moore) Foster, 314 Melrose avenue, N. Seattle, Wash. Housewife.
James Francis Odle, R. F. D. No. 1, Ogden, Kan. Farmer and stock-breeder.
Charles Randolph Pearson, Collyer, Kan. Farmer.
Horace Greeley Pope, LL. B., 3510 E. Tenth street, Kansas City, Mo. Member of law firm, Bird & Pope.
Minnie Louise Romick, 567 N. Gordon street, Pomona, Cal. Teacher.
Winnie Luella (Romick) Chandler, 608 E. Thirtieth street, Kansas City, Mo. Housewife.
Victor Irvin Sandt, Wells, Minn. Instructor of science and manual training in high school.
John Alfred Scheel, Emporia, Kan. Owner and operator of sawmill.
Jacob Ulrich Secrest, Randolph, Kan. Farmer.
Charles Chrisfield Smith, Manhattan, Kan. Newspaper work.
Jennie Ruth (Smith) Strong, 223 Willow street, Ottawa, Kan. Housewife.
Wesley Ohio Staver, box 305, El Paso, Tex. Chinese inspector, district of Texas, United States immigration service.
John Stingley, Salina, Kan. Traveling salesman for Moline Plow Company.
John Edwin Taylor. Died in 1896.
Delbert L. Timbers, Osborne, Kan. Merchant.
Phebe Carey (Turner) Clothier, St. Marys, Kan. Housewife.
Samuel Robert Vincent, M. S., R. F. D. No. 2, Deer Creek, Okla. Farmer.
Lucy Helena Waters, A. M., Santa Monica, Cal. Teacher of English and botany.

1895.*

Edward Jones Abell, R. F. D. No. 2, Leonardville, Kan. Farmer and stock-raiser.
Carl D. Adams, 720 Orville avenue, Kansas City, Kan. Weighing clerk at Swift's.
Robert John Barnett, Manhattan, Kan. Assistant postmaster.
Burton Wesley Conrad, Sabetha, Kan. Student Kansas City Veterinary College.
Florence Ruth Corbett, M. S., department public charities, foot of East Twenty-sixth street, New York city. Departmental dietitian.
Sid Henry Creager, Midland hotel, Kansas City Mo. Lumberman.
Elsie Emeline Crump, Boulder, Colo. Teacher city schools.
David Thomas Davies, Manhattan, Kan. Farmer.
Frank Andrew Dawley, Waldo, Kan. Farmer and stock-raiser.
Daisy Day, M. S., Onaga, Kan. At home.
Flora (Day) Barnett, M. S., Manhattan, Kan. Housewife.
George Adam Dean, Manhattan, Kan. Assistant in entomology, Kansas State Agricultural College.
Lillie Christena (Dial) Falin, Cleburne, Kan. Housewife.
Lucy Ellis, 334 Ann avenue, Kansas City, Kan. Teacher.
Victor Emrick, 1034 East Main street, Portland, Ore. Clerk, ticket auditor's office, Oregon Railway and Navigation Company.
George Forsyth, 201 South Main street, Franklin, Ind. Commercial traveler.
Ernest Harrison Freeman, Armour Institute of Technology, Chicago, Ill. Instructor in electrical engineering.

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Florence Eleanor (Fryhofer) Webster, The Columbia, No. 23, Washington, D. C. Housewife.

George William Fryhofer, Monticello hotel, St. Louis, Mo. Lawyer.

Oscar Hugo Halstead, Manhattan, Kan. Assistant professor of mathematics and graduate student, Kansas State Agricultural College.

Hortensia (Harman) Patten, 307 N. Harvey avenue, Oak Park, Ill. Housewife.

John Bright Harman, 412 Plateau avenue, Colorado City, Colo. Ranchman; fuel and feed merchant.

Clarence V. Holsinger, R. F. D. No. 5, Rosedale, Kan. Horticulturist and nurseryman.

Christian Andrick Johnson, Success, Kan. Farmer and stock-raiser.

John James Johnson, Litchfield, Ill. Pullman car conductor.

Fred Ralph Jolly, Paola, Kan. Editor of *Record*.

William Irving Joss, 816 Columbia avenue, Philadelphia, Pa. Physician and postgraduate student.

Maud Estella (Kennett) Darnall, Lents, Ore. Teacher.

Myron Arthur Limbocker, Pomona, Kan. Cashier Citizens' State Bank.

Samuel Alexander McDowell, Elkton, Colo. Miner.

Laura Sara (McKeen) Smith, Russell, Kan. Housewife.

Theo. Wattles Morse, M. S., 1100 W. Fortieth street, Kansas City, Mo. Agricultural advertiser.

Oscar Albert Otten, Hebron, Neb. Agent C. R. I. & P. Rly. Co.

William Hackworth Painter. Died in 1901.

Charles Wesley Pape, M. S., Lincoln, Neb. With Beatrice Creamery Company.

Ethel (Patten) Ames, 7438 Hermitage street, Pittsburg, Pa. Housewife.

John Vernon Patten, 307 N. Harvey avenue, Oak Park, Ill. Manufacturer of heating apparatus.

William H. Phipps, 311 Temple block, Kansas City, Mo. Manager with Empire Cream Separator Company.

Alice Julia (Quintard) Peck. Died in 1899.

Frederick Ellsworth Rader, Rampart, Alaska. Alaskan Experiment Station.

Ralph Waldo Rader, Fayetteville, Ark. Fruit-grower, and secretary of Fayetteville Fruit growers' Association.

Ada Rice, Manhattan, Kan. Instructor in English, Kansas State Agricultural College.

Benjamin Franklin Simeon Royer, Clearmont, Mo. Physician and surgeon.

Charles Baxter Selby, Sterling, Okla. Lawyer, editor, and United States court commissioner.

Mabel Gertrude (Selby) Laughlin, Safford, Ariz. Housewife.

Ernest P. Smith, 310 Peterson street, Fort Collins, Colo. Carpenter.

Frederick John Smith, Russell, Kan. Editor and county clerk.

Kitty Myrtle (Smith) Wheeler, Harlem, Mo. Housewife.

Marietta Smith, Manhattan, Kan. Graduate nurse.

William Henry Steuart, Winchester, Kan. Farmer.

Cora Idella (Stump) Chaffee, Lasita, Kan. Housewife.

Dora (Thompson) Winter, 2303 Wabash avenue, Kansas City, Mo. Housewife.

Elven Creveling Trembly, Comiskey, Kan. Farmer and stock-raiser.

George Carpenter Wheeler, Harlem, Mo. Manager of stock farm.

Mary Elizabeth (Willard) Emrick, 1034 E. Main street, Portland, Ore. Housewife.

Olive Mabel (Wilson) Holsinger, R. F. D. No. 5, Rosedale, Kan. Housewife.

Ora Gertrude Yenawine, Anniston, Ala. Instructor in domestic art, Barber's Memorial Seminary.

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*B. S. has been granted all graduates since 1877.

1896.*

May Haines (Bowen) Schoonover, A. B., Beaver, Pa. Housewife.
Con Morrison Buck, M. S., Marceline, Mo. Civil engineer for A. T. & S. F. Rly.
Margaret Isaphene (Carleton) Doane, Hyattsville, Md. Housewife.
William Annesley Cavenaugh, Manila, P. I. Captain, Sixth United States infantry.
William Arthur Coe, Ford, Kan. Farmer.
Charlotte Mabel (Cotton) Smith, 310 Peterson street, Fort Collins, Colo. Housewife.
Ernest Brown Coulson, Cherokee, Okla. Civil engineer K. C. M. & O. Ry.
George Henry Dial, Cleburne, Kan. Farmer and stock-raiser.
Charles Francis Doane, M. S., College Park, Md. Dairyman and bacteriologist, Maryland Experiment Station.
John Berthold Dorman, Ph. B., West New Brighton, N. Y. Teacher, New York city schools.
Bradford Dougherty, 632-634 Minnesota avenue, Kansas City, Kan. Merchant.
Charles Silar Evans, M. D., 3136 Harrison street, Kansas City, Mo. Physician.
Robert Kilby Farrar, Downs, Kan. Superintendent of city schools.
George William Finley, Tonkawa, Okla. Professor of mathematics, University Preparatory School of Oklahoma.
Joanna Freeman. Died in 1897.
John Jacob Fryhofer, 1810 Byers avenue, Joplin, Mo. Bookkeeper and cashier for Freeman foundry and machine works.
Elmer George Gibson, 626 N. Summit street, Arkansas City, Kan. Engineering department, A. T. & S. F. railway.
George Clifton Hall, Manhattan, Kan. Farmer and teacher.
Alonzo Charles Havens, R. F. D. No. 4, Manhattan, Kan. Farmer.
Gertrude Julia (Havens) Norton. Died in 1905.
Lawrence Wilbur Hayes, 624 Van Buren street, Topeka, Kan. Check clerk, C. R. I. & P. freight depot.
John Warren Holland, 25 Santa Monica street, Manila, P. I. General broker.
Henry George Johnson, D. D. S., Lindsborg, Kan. Dentist.
Susan Effie (Johnson) Cooper, Success, Kan. Housewife.
Marian Elizabeth Jones, M. S., 417 W. One Hundred and Fourteenth street, New York city. Student Teachers' College, Columbia University.
Thomas Lormer Jones, 921 Charlotte street, Kansas City, Mo. Piano tuner and salesman.
Edward Clarence Joss, M. C. D., 3320 N. Seventh street, Tacoma, Wash. Inspector in charge of local office, bureau of animal industry, United States Department of Agriculture.
Royal S. Kellogg, M. S., Washington, D. C. Agent bureau of forestry, United States Department of Agriculture.
Mark Kirkpatrick, Ardmore, I. T. Real estate.
Edith Lynette (Lantz) Simmons, 602 Spicer avenue, Victor, Colo. Housewife.
Sue (Long) Strauss, 1241 Tyler street, Topeka, Kan. Housewife.
Charles W. Lyman, Salina, Kan. Traveling salesman.
Charles Dwin McCauley, Wilburn, Kan. Farmer.
Charles Sumner Marty, Sun, Barber county, Kansas. Stockman.
Elda Lenore (Keen) Moore, Manhattan, Kan. Housewife.
Arthur Huston Morgan, R. F. D. No. 3, Long Island, Kan. Farmer and stock-raiser.

---

*B. S. has been granted all graduates since 1877.

Clara Verena Newell, Glenville, Neb. At home.
Ellen Elizabeth (Norton) Adams, Cheyenne Wells, Colo. Housewife.
John Bitting Smith Norton, M. S., College Park, Md. Professor of botany, Maryland Agricultural College, and state pathologist.
Hattie A. (Paddleford) McFadden, R. F. D. No. 1, Stockdale, Kan. Housewife.
Mary Kerilla (Painter) Rogers, Ballaire, Okla. Housewife.
Elva Luthera (Palmer) Thackrey, 2746 Belleview avenue, Kansas City, Mo. Housewife.
Inez Luella (Palmer) Barrows, Washington, Kan. Housewife.
Fannie (Parkinson) Moyer, R. F. D. No. 1, Melvern, Kan. Housewife.
Archie Carpenter Peck, Francis, I. T. Manager of cotton-gin.
Arthur Louis Peter, M. D., 2041 Ogden street, Denver, Colo. Physician.
Charles Edwin Pincomb, Merriam, Kan. Stockman.
Mary Josephine (Pincomb) Moats, box 36, Tampico, Mexico. Housewife.
John Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Edgar Arthur Powell. Died in 1904.
Lisle Willits Pursel, 1318 Monroe avenue, Kansas City, Mo. Specialty salesman for Swift & Company.
Howard Newton Rhodes, Manhattan, Kan. Cashier at Union Pacific freight depot.
Ambrose Elliott Ridenour, Manhattan, Kan. Foreman of foundry, Kansas State Agricultural College.
Mary Etta (Ridenour) Plowman, Jewell, Kan. Housewife.
Isaac Archie Robertson, Manhattan, Kan. Clerk.
Grace Anna Secrest. Died in 1902.
Carl Snyder, Oskaloosa, Kan. Farmer.
Max Gilbert Spalding, Eureka, Kan. Farmer.
Orville Ashford Stingley, D. V. S., 1912 East Thirty sixth street, Kansas City, Mo. Meat inspector, bureau of animal industry, United States Department of Agriculture.
Sadie (Stingley) Haggman, 1805 Michigan avenue (Boyle Heights), Los Angeles, Cal. Housewife.
Gertrude Ella Stump, Manhattan, Kan. At home.
Miriam Esther (Swingle) Joss, 3320 North Seventh street, Tacoma, Wash. Housewife.
William Elwood Thackrey, Fort Shaw, Mont. Manual training teacher, Indian school.
James Dunbar Trumbull, Riley, Kan. Merchant.
Frank Edwin Uhl 401 Washington avenue, Kansas City, Kan. Dairyman.
Edwin H. Webster, M. S., The Columbia, No. 23, Washington, D. C. Chief dairy division, bureau of animal industry, United States Department of Agriculture.

1897.*

Cora Atwell, 1125 West Third street, Topeka, Kan. At home.
Roger Williams Bishoff, Colony, Okla. Industrial teacher, Seger Indian training school.
Mary Frances (Carnell) Roe, Dorrance, Kan. Housewife.
William Burns Chase, Dodge City, Kan. Superintendent of telephone exchange.
Frank E. Cheadle, Cherokee, Okla. Merchant.
Robert Waitman Clothier, M. S., Cape Girardeau, Mo. Professor of chemistry and agriculture, Third District Normal School.

*B. S. has been granted all graduates since 1877.

Maggie A. (Correll) Uhl, 401 Washington avenue, Kansas City, Kan. Housewife.

Mabel (Crump) McCauley, 6021 Monroe avenue, Chicago, Ill. Housewife.

Fred Volley Dial, 1208 Kentucky street, Lawrence, Kan. Assistant in museum, Kansas State University.

Viola Grace Dille, 3519 Euclid avenue, Kansas City, Mo. Clerk, Meriden Creamery Company.

Samuel Dolby. Died in 1903.

George Doll, Lewis, Kan. Merchant.

Anna Phillipina (Engel) Blackman, Manhattan, Kan. Housewife.

Emma Finley, 625 North Garey avenue, Pomona, Cal. Teacher city schools.

Martha (Fox) Smith, 923 Madison street, Topeka, Kan. Housewife.

Philip Fox, M. S., Williams Bay, Wis. In charge of research in solar physics at Yerkes Observatory.

Ned Merrill Green, presidio of Monterey, Cal. First Lieutenant, Fifteenth infantry, United States army.

Mary Eliza Haulenbeck. Died in 1901.

Lewellyn Gaines Hepworth, Burlingame, Kan. Traveling salesman.

Ina Emma Holroyd, Manhattan, Kan. Assistant in preparatory department, Kansas State Agricultural College.

Myrtle Hattie (Hood) Johnson, Success, Kan. Housewife.

Charles Henry Hoop, Manhattan, Kan. Clerk.

Winifred Anna (Houghton) Buck, Marceline, Mo. Housewife.

Bret Redmon Hull, Manhattan, Kan. Hardware merchant.

Clay Berkey Ingman, Barnes, Kan. Farmer.

Gertrude May (Lyman) Hall, Hyattsville, Md. Housewife.

Frederick Hugo Meyer, corner Fifth street and Barnett avenue, Kansas City, Kan. Creameryman.

Valentine Maelzer, Patterson, Idaho. Teacher.

Sherman Bodwell Newell, R. F. D. No. 3, Manhattan, Kan. Ranchman.

Oliver Ezra Noble, Hobart, Okla. Surveyor and draftsman.

Jesse Baker Norton, M. S., Washington, D. C. Assistant in physiology, bureau of plant industry, United States Department of Agriculture.

Mary Augusta (Norton) Polson, Winkler, Kan. Housewife.

Bertha Olivia Olson, Manhattan, Kan. At home.

Hilda Sophia (Olson) Axelton, Randolph, Kan. Housewife.

Russell John Peck, Gotebo, Okla. Farmer.

William Oscar Peterson, Randolph, Kan. Principal of Ogden school; farmer.

Eva Louise Philbrook, Plainville, Kan. Teacher.

Rufus M. Philbrook, Hotel State, Walla Walla, Wash. Painter.

William Joseph Rhoades, Olathe, Kan. Cashier in bank.

Carl E. Rice, central police station, Manila, P. I. Patrolman.

Thomas Meade Robertson, D. D. S., Coffeyville, Kan. Dentist.

Homer Joseph Robison, Taal, Batanzas province, P. I. Hospital steward, United States army.

Edward Shellenbaum, Randolph, Kan. Postmaster.

Alice Myrtle Shofe, Manhattan, Kan. Teacher.

Charles Wesley Shull, Winona, Kan. Dairyman and ranchman.

Alfred Caleb Smith, 7503 Sunnyside avenue, Seattle, Wash. Electrician.

Phœbe Jane Smith, 414 West Eighth street, Pueblo, Colo. Supervisor of sewing in city schools.

Wilhelmina Henrietta Spohr, Manhattan, Kan. Teacher city schools.

Charles Harrison Stokely, 3102 Cherry street, Kansas City, Mo. Collector for telephone company.
John E. Trembly, Comiskey, Kan. Farmer and stock-raiser.
Harriet Agnes (Vandivert) Remick, Manhattan, Kan. Housewife.
Olive Voiles, 114 South Thirteenth street, Cedar Rapids, Iowa. Trained nurse.
John Minton Westgate, M. S., Washington, D. C. Assistant, United States Department of Agriculture.
Mark Wheeler, Manila, P. I. Captain, Sixteenth United States infantry.
Clare Annie (Wilson) Dutton, Council Grove, Kan. Housewife.

1898.*

Emory Sherwood Adams, Vancouver barracks, Vancouver, Wash. Second Lieutenant, Fourteenth United States infantry.
Joshua William Adams, Cheyenne Wells, Colo. Ranchman.
Samuel John Adams, Cheyenne Wells, Colo. Ranchman.
Thomas Walter Allison, Florence, Kan. Fruit-grower.
William Anderson, Manhattan, Kan. Assistant in mathematics, Kansas State Agricultural College.
Jessie Geneva (Bayless) Staver, R. F. D. No. 1, Lenexa, Kan. Housewife.
Hope Brady, Manhattan, Kan. Teacher city schools, Liberal, Kan.
Robert Henry Brown, Manhattan, Kan. Assistant in music, Kansas State Agricultural College.
Earl Carver Butterfield, 2317 Pennsylvania avenue, N. W., Washington, D. C. Assistant in horticulture, bureau of plant industry, United States Department of Agriculture.
John Alfred Conover, corner Boone and Duff streets, Ames, Iowa. Assistant, animal husbandry department, Iowa State College.
Minnie Laura Copeland, 722 Hinman avenue, Evanston, Ill Surgical assistant to Dr. E. H. Pratt, 100 State street, Chicago.
Lucy Maria (Cottrell) Pottorf, Riley, Kan. Housewife.
Anna Magdalena (Dahl) Davis, R. F. D. No. 1, Montrose, Kan. Housewife.
Inga Josephine Dahl, R. F. D. No. 1, Montrose, Kan. Teacher.
Cassie Belle Dille, 3519 Euclid avenue, Kansas City, Mo. With Meriden Creamery Company.
Emma Phillipine Doll, Larned, Kan. Teacher.
Cora Elizabeth (Ewalt) Brown, Manhattan, Kan. Housewife.
Guy Francis Farley, Melvern, Kan. Lecturer and reader.
Mary (Finley) Ridenour, Manhattan, Kan. Housewife.
Arthur Lorenzo Frowe. Died in 1904.
William Logan Hall, M. S., Washington, D. C. Assistant forester, in charge of tree planting, United States Department of Agriculture.
Anna Viola (Hanson) Higinbotham, Manhattan, Kan. Housewife.
Walter Eugene Hardy, 211 E. Eleventh street, Kansas City, Mo. Retail confectionery merchant.
James Madison Harvey, R. F. D. No. 1, Ogden, Kan. Farmer.
Emmett Vivian Hoffman, Enterprise, Kan. Manager, C. Hoffman & Son, secretary Hoffman Elevator Company, and president Kansas Concrete Stone Company.
Guy Dudley Hulett, D. O. Died in 1904.
Bertha Emma Ingman, Barnes, Kan. At home.

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Ary Cordelia (Johnson) Butterfield, 437 Hardesty avenue, Kansas City, Mo. Housewife.
Charles Percy King, Baxter Springs, Kan. Lumberman.
Bessie May (Lock) Noble, Hobart, Okla. Housewife.
Olive Long. Died in 1902.
William Andrew McCullough, M. D. Manhattan, Kan. Physician.
Inez Isadore (Manchester) Allison, Florence, Kan. Housewife.
Florence Adelia Martin. Died in 1901.
Henry Alba Martin, Admire, Kan. Creamery man and farmer.
Alice Maude Melton, Manhattan, Kan. Clerk in director's office, Kansas Experiment Station.
George Gerkein Menke, Garden City, Kan. Stock-breeder.
Mary Frances Minis, Manhattan, Kan. Office assistant, E. B. Purcell Trading Company.
May (Moore) Dakin, 706 N. Lawrence street, Wichita, Kan. Housewife.
Harriet Grace (Nichols) Donohoo, Tucumcari, N. M. Housewife.
Schuyler Nichols, M. D., Herington, Kan. Physician and surgeon.
Lucy Junie Parks, Manhattan, Kan. Teacher.
Ernest Byron Patten, Carthage, S. Dak. Grain-buyer.
C. Jeanette (Perry) Thomas, 214 N. Third street, Harrisburg, Pa. Housewife.
Emilie Matilda Pfuetze, Manhattan, Kan. Cashier in store.
John Martin Pierce, Geyserville, Cal. Fruit-grower.
Raymond Haines Pond, M. S., Ph. D., 87 Lake street, Chicago, Ill. Professor of botany and pharmacognosy, Northwestern University.
William Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Willis Thomas Pope, Honolulu, H. I. Professor of nature study and agriculture in the Territorial Normal and Training School of Hawaii.
Nora May (Reed) Pierce, Geyserville, Cal. Housewife.
Gertrude Elizabeth Rhodes, Manhattan, Kan. Clerk.
Henry William Rogler, Bazaar, Kan. Farmer and stockman.
Ferdinand John Rumold, Dillon, Kan. Farmer and stockman.
Martin Wilbur Sanderson, Marysville, Kan. City engineer and county surveyor.
Olive Maria (Shelden) Parker, 128 Prospect avenue, El Paso, Tex. Housewife.
Edwin Lee Smith, R. F. D. No. 3, Manhattan, Kan. Rural letter carrier and farmer.
Oliver Russell Smith, C. E., Socorro, N. M. Professor of civil engineering, New Mexico School of Mines.
Bertha (Spohr) Smith, Garnett, Kan. Housewife.
Andrew B. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.
Cora Thackrey, Valentine, Neb. Recording clerk in county clerk's office.
Harriet Emerson (Thackrey) Reece, Valentine, Neb. Housewife.
Henry Marsden Thomas, 214 North Third street, Harrisburg, Pa. Collection manager for J. I. Case Threshing-machine Company.
Elsie Lucile Waters, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Fred Dorsey Waters, Neame, La. Lumber grader.
Abner Davis Whipple, 531 West Sixty-first Place, Chicago, Ill. Traveling salesman for Chicago Linoleum Company.
Adelaide Frances (Wilder) Sawdon, 933 East State street, Ithaca, N. Y. Housewife.
Josephine Hannah (Wilder) McCullough, Manhattan, Kan. Housewife.
Frank Yeoman, LL. B., 57 Water-works building, Kansas City, Mo. Lawyer.
Frederick Zimmerman, Moray, Kan. Farmer and dog fancier.

1899.*

Bonnie Frances Adams, Marvin, Kan. At home.
Morrison Carpenter Adams, Marvin, Kan. Stock farmer.
Melvia Fairetta Avery, Wakefield, Kan. Student at the College of Physicians and Surgeons, Kansas City, Kan.
Albert Edwin Blair, 517 Massachusetts building, Kansas City, Mo. Architectural draftsman and graduate student, Kansas State Agricultural College.
James Courtney Bolton, R. F. D. No. 1, Wamego, Kan. Farmer.
Joseph Abbott Butterfield, 437 Hardesty avenue, Kansas City, Mo. Railway mail service.
Willitt Ramson Correll, R. F. D. No 2, Carbondale, Kan. Farmer.
Ernest Lerned Cottrell, Wabaunsee, Kan. Farmer.
Alfred Burton Dille, jr., Edgerton, Kan. Farmer and raiser of fancy stock.
Francis Joseph Habiger, Bushton, Kan. Farmer and stock-raiser.
John George Haney, 920 Clark street, Ames, Iowa. Assistant professor of farm crops in division of agronomy, Iowa State College.
John Andrew Harvey, R. F. D. No. 1, Ogden, Kan. Farmer.
Grace Edna (Hill) Champlin, Phillipsburg, Kan. Housewife.
Hiram Adsit Holzer, 113 West Park avenue, Pittsburg, Kan. Superintendent United Iron works Company.
Charles Clifford Jackson, R. F. D. No. 1, Westmoreland, Kan. Farmer.
Fred Emanuel Johnson, D. V. S., Alliance, Neb. United States inspector, federal quarantine service, bureau of animal industry.
Harry Wallace Johnston, Chinesburg, Tex. Telegraph operator, S. F. Rly. Co.
Lot Parker Keeler, 287 Second street, Portland, Ore. Carpenter.
John Martin Kessler, Twenty-fifth and Kansas avenue, Topeka, Kan. Florist.
Albert Thomas Kinsley, M. S., D. V. S , 1330 East Fifteenth street, Kansas City, Mo. Microscopist, Kansas City Veterinary College; veterinary practitioner.
Frank Elmer LaShelle, Superior, Neb. Printer.
Christian Dagobert Lechner, Russell, Kan. Contractor.
Ross Long, Manhattan, Kan. Lawyer.
Louisa Mary (Maelzer) Haise, Russell, Kan. Housewife.
Kate Anna Manly, Manhattan, Kan. Teacher in city schools.
Claud Masters, Ardmore, I. T. United States Indian service.
Robert Bertice Mitchell. Died in 1904.
Jennie June (Needham) Carter, R. F. D. No. 1, Rantoul, Kan. Housewife.
Roscoe Townley Nichols, M. D , Liberal, Kan. Physician and surgeon.
Fanny Gertrude Noyes, 217 E. College street, Oberlin, Ohio. Student.
Harry Delphos Orr, M. D., St. Luke's hospital, Chicago, Ill. Physician on resident staff.
George Washington Owens, Normal Institute, Tuskegee, Ala. Professor of dairy husbandry.
Carrie Vashti (Painter) Desmarias, Lakeland, Kan. Housewife.
Ella Emerson Peck, Big Valley, Tex. Teacher.
Anna C. Pfuetze, Manhattan, Kan. At home.
Andrew Pottorf, Riley, Kan. Farmer.
Mary Bly (Pritner) Lockwood, Allegheny Place, Meadville, Pa. Housewife.
Otto Independence Purdy, Albert Lea, Minn. Associate editor *Freeborn County Times*.
Delmer William Randall, Washington, D. C. Civil engineer, Department of Agriculture.

*B. S. has been granted all graduates since 1877.

William Harry Roberts, Vernon, Kan. Farmer.
Frank Sessions Shelton, Juneau, Alaska. Prospector.
Louisa Mary Spohr, Topeka, Kan. Directress of Christ hospital.
Annie Louisa (Streeter) Haney, 920 Clark street, Ames, Iowa. Housewife.
Nellie (Towers) Brooks, 1125 Paseo, Kansas City, Mo. Housewife.
Otho Sprague True, R. F. D. No. 2, Paxico, Kan. Farmer.
James Otis Tulloss, Sedan, Kan. Merchant, and Regent Kansas State Agricultural College.
William Guy Tulloss, Rantoul, Kan. Cashier State Bank.
George Franklin Wagner, Enterprise, Kan. Farmer and stock-raiser.
Mary Lana (Waugh) Smith, 7503 Sunnyside avenue, Seattle, Wash. Housewife.
Charles Bernard White, Hudson, Colo. Ranchman.
Nannie Elizabeth Williams, 3945 Cook avenue, St. Louis, Mo. Stenographer.
Alexander George Wilson. Died in 1902.
Frederick Otto Woestemeyer, B. D., Bethel, Kan. Minister.

1900.*

Elizabeth Jane Agnew, Yates Center, Kan. Teacher of domestic science.
Elizabeth Edna (Asbury) Derr, 608 Main street, Mt. Pleasant, Mich. Housewife.
Effie Elizabeth (Bailey) Foltz, R. F. D. No. 3, Manhattan, Kan. Housewife.
Alvah I. Bain, Marysville, Kan. Implement and coal dealer.
Harry M. Bainer, M. S. A., Ames, Iowa. Instructor in field-engineering, in farm mechanics department, Iowa State College.
Charlotte Almira (Berkey) Smith, El Dorado, Kan. Housewife and teacher.
John Harold Blachly, Manhattan, Kan. Painter.
Minerva (Blachly) Dean, Manhattan, Kan. Housewife and graduate student, Kansas State Agricultural College.
Zina Leigh Bliss, 413 Thompson street, Ann Arbor, Mich. Student in Forest school, University of Michigan.
Fred Winchester Bobbitt, Perry, Okla. County surveyor and civil engineer.
Lillie Grace Bolton, R. F. D. No. 1, Wamego, Kan. Teacher.
Prudence Dell Broquet, Norton, Kan. At home.
Nellie (Burtner) Sargent. Died in 1901.
Clarence Asa Chandler, 608 East Thirtieth street, Kansas City, Mo. Landscape-gardener for Kansas City parks.
Frederick Waldemar Christensen, State College, Pa. Assistant expert, animal nutrition, bureau of animal industry, United States Department of Agriculture.
Ernest Mansel Cook, Oakley, Kan. Farmer and stock-raiser.
Charles McClain Correll, Manhattan, Kan. Teacher in city schools.
Jennie Maude Currie, 904 Monroe street, Topeka, Kan. Stenographer, A. T. & S. F. general offices.
Harry Leroy Dern, Dodge City, Kan. Teacher and stock-raiser.
Homer Derr, 608 Main street, Mt. Pleasant, Mich. Instructor of physics and mathematics, Central State Normal School.
Mary Alberta (Dille) Hulett, Edgerton, Kan. Housewife.
Robert Edward Eastman, Manhattan, Kan. Assistant horticulturist and graduate student, Kansas State Agricultural College.
Jennie Edelblute, Manhattan, Kan. Clerk.
Eugene Emrick, Webb City, Mo. Deputy for Knights and Ladies of Security, Topeka, Kan.

*B. S. has been granted all graduates since 1877.

Josephine Finley, Manhattan, Kan. Graduate student, Kansas State Agricultural College.

Harry Verne Forest, Lyons, Kan. Superintendent of electric light company.

George Ogden Greene, M. S., Amherst, Mass. Assistant in horticulture, Massachusetts State Agricultural College.

Herman C. Haffner, Grand Junction, Colo. Assistant superintendent Teller Institute.

Gustaf William Hanson, lock box P, Marquette, Kan. Proprietor and superintendent of the Hanson Novelty Manufacturing Company.

James William Harner, Manhattan, Kan. Graduate student, Kansas State Agricultural College.

Daisy Gladys Hoffman, Enterprise, Kan. Kindergarten teacher.

Walter Fisk Lawry, 114 Thirty-third street, Chicago, Ill. Structural engineer.

Amanda Culp (McCarty) Coats, Mountain Grove, Mo. Housewife.

N. Ollie McCurry, Winslow, Ariz. Telegraph operator.

George G. McDowell, Elkton, Colo. Miner.

Roland McKee, Blue Rapids, Kan. Farmer and graduate student, Kansas State Agricultural College.

Nettie (McLaren) Scott, box 75, Altoona, Kan. Housewife.

Charles Dudley Montgomery. Died in 1902.

Fred Byers Morlan, R. F. D. No. 1, Courtland, Kan. Farmer.

Andrew Edward Oman, care of Yale Forest School, New Haven, Conn. Student, Yale Forest School.

Kate Paddock, Manhattan, Kan. At home.

Joseph Lloyd Pancake, Tully, Kan. Stock-raiser.

Albert William Parrack. Died in 1901.

Edith (Perkins) Myers, Berkeley, Va. Housewife.

Elenore Perkins, box 238, South Pasadena, Cal. At home.

Paul du Chaillu Piersol, 214 W. Oklahoma avenue, Guthrie, Okla. Manufacturing confectioner.

Luther Eugene Potter, Chilocco, I. T. Dairyman at Indian school.

Clara Spilman, Camden Point, Mo. Instructor in domestic science at the Christian Female Orphans' School.

Mabel Stewart, Neosho, Mo. Teacher.

Stella Stewart, Cresheim Hall, Mt. Airy, Philadelphia, Pa. Primary teacher, Pennsylvania Institution for the Deaf.

Fayette Charles Sweet, Beaver county, Oklahoma. Stockman.

Cora Edith Swingle, South Canaan, Pa. Student at State University, Ann Arbor, Mich.

Deane Bret Swingle, M. S., 1615 Florida avenue, Washington, D. C. Assistant in pathology, United States Department of Agriculture.

Barton Thompson, Birmingham, Ala. Foreman Hillside dairy farm.

Laura Helen (Trumbull) Correll, Manhattan, Kan. Housewife.

Jessie May Wagner, Enterprise, Kan. At home.

Luther Watts Waldraven, R. F. D. No. 1, Winkler, Kan. Farmer and stock-raiser.

Kate Elizabeth Zimmerman, Fruita, Colo. Assistant in high school.

1901.*

Delmar Akin, Manhattan, Kan. Farmer.
Cyrus Norton Allison, D. D. S., Falls City Neb. Dentist.
Loua Adelle Blachly, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Harry S. Bourne, Delphos, Kan. Carpenter and machinist.
Charles J. Burson, Herrick, S. Dak. Farmer and stock-raiser.
Howard Frank Butterfield, 604 W. Second street, Pittsburg, Kan. Instructor in manual training in high school.
Edwin Charles Cook. Died in 1903.
Ina Foote Cowles, Manhattan, Kan. Instructor in domestic art, Kansas State Agricultural College.
Trena Dahl, R. F. D. No. 1, Montrose, Kan. Teacher, and graduate student, Kansas State Agricultural College.
Fannie Rachel Ellen Dale, Manhattan, Kan. Stenographer in mechanical department, Kansas State Agricultural College.
Herman August Dieball, Albuquerqe, N. M. Proprietor of Commercial hotel.
Edgar Willis Doane, box 15, Palo Alto, Cal. Student Leland Stanford Jr. University.
Otto H. Elling, Hays, Kan. Superintendent, Fort Hays Branch Experiment Station.
Valentine Meacham Emmert, R. F. D. No. 1, Blue Rapids, Kan. Farmer and stockman.
Rainey Faris, Upper Alton, Ill. Master mechanic for Western Cartridge Company.
Harry Haines Fay, R. F. D. No. 2, Wilsey, Kan. Farmer.
Fred Fockele, Waverly, Kan. Cashier in bank.
Louise Gerteis, Derby, Kan. Student at Kansas State Normal School.
Maud Hart, Coin, Iowa. At home.
Fred Willis Haselwood, Palo Alto, Cal. Civil engineer with Western Pacific Railway Co.
Minnie M. Howell, box 1, Topeka, Kan. Instructor of domestic science and mathematics, Topeka Industrial Institute.
Edith Huntress, Manhattan, Kan. Executive clerk, Kansas State Agricultural College.
Louis Berten Jolley, 71 Thirtieth street, Chicago, Ill. Physician and surgeon.
Helen (Knostman) Pratt, Manhattan, Kan. Housewife.
Daniel Ladd, 652 E. Fifty-seventh street, Chicago, Ill. Student Chicago University.
Erma Elizabeth Locke, Mountain Grove, Mo. Teacher in high school.
Harvey McCaslin, Palo Alto, Cal. Student Leland Stanford Jr. University.
Madge Ruth McKeen, Keats, Kan. Teacher.
John A. McKenzie, R. F. D. No. 1, Solomon, Kan. Farmer.
George Martinson, Reno, Nev. Lawyer.
Walter E. Mathewson, Manhattan, Kan. Assistant in chemistry and graduate student, Kansas State Agricultural College.
Emma Maude (Miller) Cook, Oakley, Kan. Teacher.
Margaret Jane Minis, Manhattan, Kan. Librarian, Kansas State Agricultural College.
Clarence William Morgan, Phillipsburg, Kan. Farmer.

* B. S. has been granted all graduates since 1877.

Eugene Lawrence Morgan, Phillipsburg, Kan. Student at Kansas Medical College, Topeka.
Ruth Atwill Mudge, 909 Fourth avenue, Louisville, Ky. Assistant in physiology and botany, girls' high school.
Jessie May Mustard, Manchester, Kan. Teacher at Solomon, Kan.
Martha Nitcher, Ames, Iowa. Teacher.
John H. Oesterhaus, 1330 E. Fifteenth street, Kansas City, Mo. Student at Kansas City Veterinary College.
Carrie Belle Oneel, Potter, Kan. Teacher.
Helena Maude Pincomb, 302 Church street, Stevens Point, Wis. Directress of domestic science at State Normal School.
Bryant Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Leroy Rigg, Kirwin, Kan. Farmer and stock-raiser.
William Stephen Sargent, Cody, Wyo. Geological survey.
Maude (Sauble) Rogler, Bazaar, Kan. Housewife.
Charles A. Scott, Washington, D. C. Agent bureau of forestry, United States Department of Agriculture, and student Yale Forest School.
Anna Louisa (Smith) Kinsley, 1330 E. Fifteenth street, Kansas City, Mo. Housewife.
Adelaide Strite, Manhattan, Kan. Teacher in city schools.
Anna Odette Summers, Waterville, Kan. At home.
Lucy Sweet, Santa Cruz, Cal. Clerk.
Perrin K. Symns, R. F. D. No. 4, Atchison, Kan. Farmer.
Estella Mae Tharp, R. F. D. No. 8, Winfield, Kan. At home.
Helen Castle True, 1817 Lane street, Topeka, Kan. Teacher.
Harry Castle Turner, Rock Creek, Kan. Teacher.
Florence Helen (Vail) Butterfield, 604 W. Second street, Pittsburg, Kan. Housewife.
Mary Caroline (Wagner) Gresham, Black Rock, N. M. Housewife.
Eleanor Mary White, R. F. D. No. 4, Newton, Kan. Teacher in Wichita.
Katharena Winter, Manhattan, Kan. Clerk.
Lucie Joan (Wyatt) Wilson, Westmoreland, Kan. Housewife.
Henry Theador York. Died in 1902.

1902.*

Mamie Alexander, Manhattan, Kan. Stenographer in office of farm department, Kansas State Agricultural College.
Edgar McCall Amos, Manhattan, Kan. Newspaper reporter.
Henry Albert Avery, Wakefield, Kan. Hardware and furniture dealer.
Etta Marie Barnard, Manhattan, Kan. Teacher.
Mary Olive Barr, Manhattan, Kan. At home.
George Ford Bean, Manhattan, Kan. Employed at Pfuetze's lumber-yard.
Charles Dallas Blachly, Leonardville, Kan. Student at Kansas City Medical College.
Bessie Sarah Bourne, Delphos, Kan. Teacher.
Martha Amelia Briggs, R. F. D. No. 2, Manhattan, Kan. At home.
Emma M. Cain, Clay Center, Kan. Teacher at Ogden.
Floyd Adelbert Champlin, Phillipsburg, Kan. Stockman.
Elijah Ellis Chase, R. F. D. No. 1, Merriam, Kan. Farmer.
Charles Howard Clark, Kinsley, Kan. Farmer.

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Maude Mildred Coe, Manhattan, Kan. Assistant in domestic art and graduate student, Kansas State Agricultural College.

Murray Stanley Cole, Daggett, Cal. With Clarke Railway Company.

Robert Curtise Cole, Trenton, Mo. Superintendent Grafflin stock farm.

Lottie Irene Crawford, 229 Smith street, Fort Collins, Colo. Assistant in domestic economy, Colorado Agricultural College.

Sarah Emily Davies, Bala, Kan. Student State Normal, Emporia.

Della Drollinger, Garrison, Kan. Teacher.

Charles Eastman, D. V. S., 1556 Mill street, San Luis Obispo, Cal. Veterinarian.

Leslie Arthur Fitz, Modesto, Cal. Scientific assistant, bureau of plant industry, United States Department of Agriculture.

Glick Fockele, Le Roy, Kan. Newspaper reporter.

Clark A. Gingery, R. F. D. No. 4, Caldwell, Kan. Farmer and stock-raiser.

William Lee Harvey, Wamego, Kan. Stenographer and student of law.

Benjamin F. Haynes, jr., R. F. D. No. 1, Middleton, Idaho. Ranchman.

William Rutherford Hildreth, Altamont, Kan. Farmer.

Christine Delphine Hofer, 4606 Indiana avenue, Chicago, Ill. Student Chicago Music School.

Henrietta Mattie Hofer, 4606 Indiana avenue, Chicago, Ill. Graduate student, Kansas State Agricultural College; student Chicago Music School.

Edouard Wilfred House, Manhattan, Kan. Mechanic.

Letta Birdilla (Keen), Edmonson, Pittsburg, Kan. Housewife.

Edgar Willis Kimball, Scandia, Kan. Journalist.

Arthur Henry Leidigh, Channing, Tex. Special agent cereal investigations, bureau of plant industry, United States Department of Agriculture.

George M. Logan, 6036 Woodlawn avenue, Chicago, Ill. Student Rush Medical College.

Otto Meade McAninch, R. F. D. No. 4, Manhattan, Kan. Farmer.

Amelia Augusta Maelzer, May, Idaho. Teacher.

Myrtle Mather, 311 North street, Normal, Ill. Teacher of domestic science, Illinois Soldiers' Orphans' Home; Chautauqua and farmers' institute lecturer.

Roger Bonner Mullen, Lake Bay, Wash. Fruit-grower and market-gardener.

Grover Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.

Abbie Elida Putnam, Logan, Kan. Teacher in high school.

Henry Paul Richards, 417 Madison street, Topeka, Kan. Mechanic with A. T. & S. F. Rly. Co.

Eva Talitha Rigg, corner Fifteenth and Denver avenue, Kansas City, Mo. Teacher domestic science and student at Fisk Deaconess Training School.

John Francis Ross, Genoa, Neb. Teacher of agriculture in Indian school.

Pontus Henry Ross, Kenai, Alaska. Superintendent of United States Experiment Station.

Fred Lewis Schneider, D. V. S., 201 South First street, Albuquerque, N. M. Veterinarian.

Edmund Ray Secrest, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.

Glen Reid Shepherd, 623 Oakland avenue, Kansas City, Kan. Treasurer at Orpheum theater.

Charles Franklin Smith, El Dorado, Kan. Assistant principal of high school.

Walter Hayward Spencer, Yates Center, Kan. Farmer.

John Thomas Stafford, Maher, Colo. Ranchman.

Myrtie Lucy Toothaker, R. F. D. No. 3, Blaine, Kan. At home.

Fred Walters, Manhattan, Kan. Employed at Higinbotham's mill.

Lilly Maud Zimmerman, Beattie, Kan. Teacher in high school.

1903.*

Richard Franklin Bourne, 1330 East Fifteenth street, Kansas City, Mo. Student and assistant, Kansas City Veterinary College.

Howard McCune Chandler, Honolulu, H. I. With Honolulu Iron Works Co.

DeVerne E. Corbin, Oxford, Kan. Draftsman.

James A. Correll, Lyons, Kan. Electrician.

Amos Luther Cottrell, Omaha, Neb. Manager of sales and advertising, with Alfalfa Meal Company.

Claude Carroll Cunningham, Manhattan, Kan. Graduate student, Kansas State Agricultural College, and farmer.

Orrin Pomeroy Drake, Beattie, Kan. Farmer.

Louis Sidney Edwards, Oswego, Kan. Stockman on Deming ranch.

Robert Alexander Esdon, R. F. D. No. 1, Garrison, Kan. Teacher.

Corinne Failyer, 225 Fifth street, S. E., Washington, D. C. At home.

Maude Irene Failyer, 225 Fifth street, S. E., Washington, D. C. Special student at George Washington University.

Estella May Fearon, 1128 Boylston street, Boston, Mass. Student Boston Normal School.

George T. Fielding, No. 7 North College street, Schenectady, N. Y. Tester, General Electric Company.

James William Fields, McPherson, Kan. Student and assistant, Western Dental College, Kansas City, Mo.

Arthur B. Gahan, College Park, Md. Assistant state entomologist.

Fred Norton Gillis, Wishek, N. Dak. Assistant cashier First State Bank.

Clara S. Goodrich, Mankato, Kan. Teacher in Jewell City schools.

Edith Anna Goodwin, Detroit, Kan. Teacher of science at Dickinson county high school, Chapman.

Ellsworth Paul Goodyear, 221 South Main street, Wichita, Kan. Baker.

Alanson L. Hallsted, Havana, Kan. Farmer.

Esther E. (Hanson) Ross, Kenai, Alaska. Housewife.

Edward Howard Hodgson, Little River, Kan. Farmer.

Pearl Holderman, Tahlequah, I. T. Clerk in land-office.

Hartley Bowen Holroyd, 340 E. Washington street, Ann Arbor, Mich. Student University of Michigan.

Sarah C. Hougham, Manhattan, Kan. Clerk in botanical department, Kansas State Agricultural College.

Axel H. Johnson, Mill Creek No. 3, Craftonville, Cal. Switchboard operator, Edison Electric Company.

Jesse McCullah Jones, R. F. D. No. 4, Montgomery, Ala. Farmer.

Hernon Curtis Kyle, Manhattan, Kan. Assistant in agriculture, Kansas State Agricultural College.

Raymond George Lawry, 114 Thirty-third street, Chicago, Ill. Engineer in charge of coal-mining plants, Roberts & Schaefer Company.

Rose Margaret McCoy, Manhattan, Kan. Teacher.

Edwin William McCrone, Callao, Mo. Dairyman.

Bessie A. Mudge, Manhattan, Kan. Graduate student, Kansas State Agricultural College.

Harold Theodore Nielsen, Washington, D. C. Assistant in alfalfa and clover investigations, bureau of plant industry, United States Department of Agriculture.

---

*B. S. has been granted all graduates since 1877.

Ivan L. Nixon, Geological hall, Albany, N. Y. Assistant state entomologist.
Russell Arthur Oakley, 1431 Sheridan street, N. W., Washington, D. C. Scientific assistant United States Department of Agriculture.
Anna Louella O'Daniel, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Clara Pancake, Manhattan, Kan. Assistant in domestic science, Kansas State Agricultural College.
Celoa Alice (Perry) Hill, Fayette, Mo. Housewife.
Alexis Joseph Reed, 12 Stanley terrace, Chicago, Ill. Telephone engineer, with Western Electric Company.
Earl Nathaniel Rodell, Manhattan, Kan. Assistant in printing, Kansas State Agricultural College.
Alice May Ross, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Alfred Hayes Sanderson, Marysville, Kan. Farmer.
Henry August Sidorfsky, Craftonville, Cal. Station operator, Santa Ana river, No. 1, Edison Electric Company.
Emma Estella (Smith) Burt, Wabaunsee, Kan. Housewife.
Harold Addison Spilman, Manhattan, Kan. Clerk and graduate student, Kansas State Agricultural College.
Lois Stump, Manhattan, Kan. At home.
Harry Raymond Thatcher, lock box 623, Houston, Tex. Manager stock farm.
Helen B. Thompson, Manhattan, Kan. Assistant in preparatory department and graduate student, Kansas State Agricultural College.
John Augustus Thompson, 711 Cornell avenue, Kansas City, Kan. Mail carrier.
Sarah Pauline Thompson, Olathe, Kan. Teacher of domestic science, School for Deaf.
Dovie May Ulrich, Manhattan, Kan. Teacher.
Harry Nelson Vinall, Crete, Neb. Nurseryman.
Alberta Suena Voiles, Manhattan, Kan. Teacher.
Leon Vincent White, Manhattan, Kan. Advance agent for dramatic company.

1904.*

Amy Alena Allen, Manhattan, Kan. Printer.
Marian Allen, Manhattan, Kan. Clerk.
Grace Allingham, Manhattan, Kan. Domestic science teacher.
James George Arbuthnot, Hubbell, Neb. Drug clerk.
Clinton Jesse Axtell, 222 W. Wesley street, Jackson, Mich. Electrician for Commonwealth Power Company.
Wallace W. Baird, Milford, Kan.
Flora Evacelia Ballou, Delphos, Kan. Telephone operator.
William Burgess Banning, Florence, Ariz. Miner.
Clara Florence Barnhisel, Indian school, Toledo, Iowa. Seamstress, Sac and Fox Indian school.
Frank Lorin Bates, Manhattan, Kan. Solicitor for Midland Lyceum Bureau.
Louis Blaine Bender, care of Western Electric Company, Chicago, Ill. Installation department.
John Jeremiah Biddison, care of Topeka *Herald*, Topeka, Kan. Reporter.
P. McDonald Biddison, Zeigler, Ill. Electrician, Zeigler Coal Company.
Wallace Newton Birch, Parkview dairy, Topeka, Kan. Dairyman.

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Otis Neel Blair, Agricultural College, Mich. Instructor in mechanical drawing.
William Armfield Boys, Lee's Summit, Mo. Farmer.
Viva (Brenner) Morrison, Golden, Colo. Housewife.
Thomas Warner Buell, Roanoke, Tex. Farmer.
Clark Stewart Cole, Mankato, Kan. Teacher.
Victor L. Cory, Mountain View, Mo. Assistant in cereal investigations, United States Department of Agriculture.
Jennie Pearl Cottrell, Wabaunsee, Kan. At home.
Ella Criss, Grigsby, Kan. Teacher.
Wilma Greene (Cross) Rhodes, Manhattan, Kan. Housewife.
Mary E. Davis, Manhattan, Kan. Clerk in post-office, Kansas State Agricultural College.
William DeOzro Davis, Independence, Kan. Electrician, Western States Portland Cement Company.
Charles Sumner Dearborn, Manhattan, Kan. Assistant in mechanical engineering, Kansas State Agricultural College.
Thomas E. Dial, 728 Osage street, Leavenworth, Kan. Electrical engineer.
Lawrence A. Doane, Parkview dairy, Topeka, Kan. Dairyman.
May Doane, Manhattan, Kan. At home.
Roy Nathan Dorman, North Topeka, Kan. Dairyman, Boys' Industrial School.
Carl O. Duehn, Clements, Kan. Farmer.
Glen Edgar Edgerton, West Point, N. Y. Cadet, United States Military Academy.
Carl G. Elling, experiment station, Santiago de las Vegas, Cuba. Assistant, Department of Animal Industry of Cuba.
Ralph B. Felton, R. F. D. No. 6, McPherson, Kan. Farmer.
Ray Bonifield Felton, R. F. D. No. 6, McPherson, Kan. Farmer.
Elizabeth Finlayson, Summerfield, Kan. Teacher.
Jessie Lois Fitz, Vinland, Kan. Teacher at Eudora.
Beulah Fleming, Manhattan, Kan. Teacher.
Hattie L. Forsyth, Dwight, Kan. At home.
Louis Cloyd Foster, La Junta, Colo. Electrician, with A. T. & S. F. railway.
Edwin Chase Gardner, 4364 Emerald avenue, Chicago, Ill. Cattle-buying department, with Swift & Co.
Walter Otis Gray, 1316 Broadway, Kansas City, Mo. Student and assistant in chemistry, Kansas City Medical College.
Augusta Griffing, Manhattan, Kan. Teacher at Rocky Ford.
John Bernice Griffing, Watonga, Okla. Creamery man.
Charles Alfred Groves, Edwardsville, Kan.
Mary Elizabeth Longfellow Hall, R. F. D. No. 3, Burden, Kan. At home.
Harry Vaughn Harlan, Walnut, Kan. Farmer.
Mamie Magdalene Hassebroek, Manhattan, Kan. Teacher.
Arthur Hurschel Helder, 1100 West Fortieth street, Kansas City, Mo. Student.
Mamie Eva Helder, Manhattan, Kan. At home.
William A. Hendershot, 5004 East Ninth street, Kansas City, Mo. Street-car conductor.
John Samuel Houser, Experiment Station, Wooster, O. Assistant entomologist.
Evan James. Hudson, Kan. Farmer.
John Arthur Johnson, Wardell, Mo. Superintendent W. C. Edwards's ranches.
Helen Kernohan, Beverly, Kan. Clerk.
Ralph Teeter Kersey, Louisville, Kan.
Charles Franklin Kinman, Auburn, Ala. Assistant horticulturist, State Agricultural College, and graduate student, Kansas State Agricultural College.

Alice M. Loomis, Manhattan, Kan. Assistant in preparatory department and graduate student, Kansas State Agricultural College.
George W. Loomis, R. F. D. No. 4, Girard, Kan. Farmer and stock-breeder.
Sara Grace McCrone, Haddam, Kan. At home.
Vera Alta McDonald, Manhattan, Kan. At home.
Kirk P. Mason, Cawker City, Kan. Student Kansas Medical College, Topeka.
Howard David Matthews, 133 Front street, Schenectady, N. Y. Electrician, with General Electric Company.
Vernon Matthews, 86 Mall street, West Lynn Station, Lynn, Mass. Engine tester for Fairbanks, Morse & Co.
Chester Arthur Maus, station B, Topeka, Kan. Electrician for Santa Fe at Temple, Tex.
Julia Anna Monroe, Whiting, Kan. Teacher at Richland.
Helen Monsch, Kelly hall, University of Chicago, Chicago, Ill. Student.
Samuel Erwin Morlan, 121 E. Maple street, Denver, Colo. Electrician, Colorado Zinc Mills.
Albert Marvin Nash, 417 E. Eighteenth street, Cheyenne, Wyo. Electrician.
Virginia Viola Norton, Manhattan, Kan. Teacher.
Mary Lorena O'Daniel, Manhattan, Kan. At home.
Tom Lawrence Pittman, Lewistown, Mont. Electrician.
Charles A. Pyle, Morrill, Kan. Farmer and stockman.
Elvin Rickman, corner Washington and Bush streets, Los Angeles, Cal. With cement company.
Jennie Florence Ridenour, Rosebud, S. Dak. Seamstress in Indian school.
Florence Rebecca Ritchie, Beloit, Kan. Teacher of domestic science, State Industrial School for Girls.
Jesse L. Rogers, Paola, Kan. Clerk.
Flora Rose, Manhattan, Kan. Assistant in domestic science, Kansas State Agricultural College.
Lawrence V. Sanford, R. F. D. No. 2, Oneida, Kan. Farmer and stock-raiser.
James G. Savage, 716 Fifth street, San Bernardino, Cal. Special apprentice with A. T. & S. F. railway.
Nicholas Schmitz, Forest Home, Ithaca, N. Y. Graduate student, Cornell University.
Robert Douglas Scott, Marysville, Kan. Manager theatrical company.
Roy A. Seaton, assistant in mathematics, Kansas State Agricultural College.
John T. Skinner, Zeigler, Ill. Chief engineer power plant, Zeigler Coal Company.
Margie Smith, Manhattan, Kan. At home.
Sallie Maud Smith, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Arthur S. Stauffer, 325 Park avenue, Beloit, Wis. Draftsman for Fairbanks, Morse & Co.
K. Elizabeth Sweet, Manhattan, Kan. Assistant in department of veterinary science and bacteriology, and graduate student, Kansas State Agricultural College.
Wendell Phillips Terrell, 84 Sawyer street, Boston, Mass. Student Massachusetts Institute of Technology.
Henry Thomas, 5027 Linden avenue, station H, Cincinnati, Ohio. Student apprentice with Bullock Electric Manufacturing Company.
Carl Thompson, Garrison, Kan. Farmer.
Norman Lee Towne, North Topeka, Kan. Gardener, Boys' Industrial School.

William Turnbull, 716 Fifth street, San Bernardino, Cal. Special apprentice, A. T. & S. F. railway shops.

Gertrude M. Vance, Manhattan, Kan. At home.

Orin Russell Wakefield, 354 South Hoyne avenue, Chicago, Ill. Medical student.

Frank Cooper Webb, R. F. D. No. 2, Peck, Kan. Farmer.

Willian Allen Webb, R. F. D. No. 2, Peck, Kan. Farmer.

James Halley Whipple, 520 East Fifth street, Topeka, Kan. Special apprentice, A. T. & S. F. railway.

Orville Blaine Whipple, Amherst, Mass. Graduate student, Massachusetts Agricultural College.

Emily Jennie Wiest, Manhattan, Kan. Clerk in register of deeds' office.

Robert S. Wilson, Eatonville, Kan. Farmer.

Retta Womer, Womer, Kan. Graduate student, Kansas State Agricultural College.

Summary.

The number of graduates up to 1905 is 1023, of whom 384 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of bachelor of arts. Since 1877, all have received the degree of bachelor of science, after a four-year course in the sciences, with good English training.

Of the 639 men, 35 are deceased, and the remainder are reported in the following occupations:

Farmers and stock-raisers	129
Farm foremen	8
Fruit-growers, nurserymen, gardeners, and florists	20
Creamery men	9
Superintendent of agricultural experiment station	1
Professors and assistants in experiment stations and agricultural colleges	28
In United States Department of Agriculture	26
Secretary of board of agriculture	1
Solar observer	1
Teachers and employees in Indian service	9
Mechanics	20
Manufacturers	6
Miners	6
Architects and builders	6
Draftsmen	7
Civil, electrical, mining and mechanical engineers	38
Telephone and telegraph operators and managers	5
Veterinary surgeons	3
Postmasters and assistants	6
In military and naval service	10
Regents Kansas State Agricultural College	2
Professors and instructors in colleges	22
Superintendents and teachers in public schools	19
Graduate students, Kansas State Agricultural College	9
Students in other institutions	25
Ministers and secretaries of Y. M. C. A	13
Journalists	21
Merchants	36
Commercial travelers	7
Agents	5
Clerks, bookkeepers, and stenographers	20
Officials and managers	20
In United States civil service	10
Physicians, students of medicine, chemists, druggists, dentists	32
Lawyers	24
District judges	2
County and state officials	10
Bankers and cashiers	12
Hotel proprietors	1
Lecturers	2
Unknown	10
Total	641
In two occupations	37
	604

Of the 384 women, 19 are deceased, and the remainder occupied as follows:

Housewives	160
Teachers of domestic science and domestic art, and dietitians	24
Nurses	6
Physicians	2
In United States Department of Agriculture	1
Secretary of Kansas State Agricultural College	1
Librarians	2
Professors and assistants in agricultural colleges and experiment stations	11
Professors and instructors in colleges	2
Teachers of art and music	3
Teachers in public schools	62
Kindergarten teacher	1
Graduate students, Kansas State Agricultural College	15
Students in other institutions	13
Dressmaker	1
Assistant postmaster	1
Bookkeepers, stenographers, and clerks	23
Lecturers	2
Journalists	2
Agent	1
Telegraph operator and telephone exchange	2
At home	36
Unknown	3
Total	374
In two occupations	9
	365

Advanced Degrees

Granted to persons not holding undergraduate degrees from this College.

1877.

John Fraser, LL. D. (Died.)

1883.

John D. Walters, M. S., Manhattan, Kan. Professor of architecture and drawing, Kansas State Agricultural College.

1894.

Arnold Emch, M. S., Boulder, Colo. Professor of mathematics, State University.

1897.

Oscar E. Olin, M. A., Akron, Ohio. Buchtel College.

1898.

Elam Bartholomew, M. S., Stockton, Kan. Farmer and botanist.

Herbert F. Roberts, M. S., Manhattan, Kan. Professor of botany, Kansas State Agricultural College.

George E. Rose, M. S., Rosedale, Kan. Superintendent of city schools.

1902.

George Fayette Thompson, M. S., Washington, D. C. Editor, bureau of animal industry, Department of Agriculture.

1904.

Alice Rupp, M. A., Manhattan, Kan. Assistant professor of English, Kansas State Agricultural College.

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1906.

KANSAS STATE AGRICULTURAL COLLEGE.

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Forty-third Annual Catalogue

of the

Officers, Students and Graduates

of the

Kansas State Agricultural College,

Manhattan.

1905-'06.

STATE PRINTING OFFICE,
TOPEKA, 1906.

1518

GENERAL VIEW.

Terms and Vacations.

Fall Term, 1906, Thirteen Weeks.

WEDNESDAY, SEPTEMBER 19.—Examination for admission, at nine A. M.
THURSDAY, SEPTEMBER 20.—College year begins.
TUESDAY, OCTOBER 2.—Short course in domestic science begins.
SATURDAY, NOVEMBER 3.—Mid-term examination.
THURSDAY, NOVEMBER 29.—Thanksgiving Day vacation.
THURSDAY AND FRIDAY, DECEMBER 20, 21.—Examination at close of term.

THURSDAY, DECEMBER 27.—Beginning of nine days' corn- and stock-judging institute.
TUESDAY AND WEDNESDAY, JANUARY 1, 2.—Boys' corn-growing and-judging contest.

Winter Term, 1907, Twelve Weeks.

MONDAY, JANUARY 7.—Examination for admission, at nine A. M.
TUESDAY, JANUARY 8.—Winter term begins.
TUESDAY, JANUARY 8.—Short courses in agriculture and dairying begin.
SATURDAY, JANUARY 26.—Annual inter-society oratorical contest.
SATURDAY, FEBRUARY 16.—Mid-term examination.
THURSDAY, MARCH 14.—Annual concert.
THURSDAY AND FRIDAY, MARCH 28, 29.—Examination at close of term.

Spring Term, 1907, Eleven Weeks.

MONDAY, APRIL 1.—Examination for admission, at nine A. M.
TUESDAY, APRIL 2.—Spring term begins.
SATURDAY, MAY 11.—Mid-term examination.
TUESDAY, MAY 21.—Beginning of summer course in domestic science.
TUESDAY AND WEDNESDAY, JUNE 18, 19.—Examination at close of year.
JUNE 16 TO 20.—Exercises of commencement week.
THURSDAY, JUNE 20, at ten A. M.—Commencement.
JUNE 21 TO SEPTEMBER 18.—Summer vacation.

Fall Term, 1907.

WEDNESDAY, SEPTEMBER 18.—Examination for admission, at nine A. M.
THURSDAY, SEPTEMBER 19.—College year begins.

Students must be present the very first day of each term or render a reasonable excuse. Failure to take out an assignment will not be accepted as an excuse.

Board of Regents.

HON. J. W. BERRY (1907),[1] *President.*
Jewell, Jewell county.

HON. J. O. TULLOSS (1907), *Vice-president,*
Sedan, Chautauqua county.

HON. E. T. FAIRCHILD (1907),
Ellsworth, Ellsworth county.

HON. J. S. McDOWELL (1909),
Smith Center, Smith county.

HON. A. M. STORY (1909),
Manhattan, Riley county.

HON. GEO. P. GRIFFITH (1909),
Hays, Ellis county.

PRES. E. R. NICHOLS (*ex officio*), *Secretary,*
Manhattan, Riley county.

MISS LORENA E. CLEMONS, *Assistant Secretary,*
Manhattan, Riley county.

1. Term expires.

Board of Instruction.

The Faculty.

ERNEST R. NICHOLS, D. B. (Iowa State Normal School), A. M. (State University of Iowa),
President.

JOHN D. WALTERS, M. S. (Kansas State Agricultural College),
Professor of Architecture and Drawing.

JULIUS T. WILLARD, M. S. (Kansas State Agricultural College),
Professor of Chemistry.

EDWIN A. POPENOE, A. M. (Washburn),
Professor of Entomology and Zoology, Curator of the Museum.

BENJAMIN L. REMICK, Ph. M. (Cornell College),
Professor of Mathematics.

BENJAMIN F. EYER, B. S. (Armour Institute),
Professor of Physics and Electrical Engineering.

HERBERT F. ROBERTS, A. B. (University of Kansas), M. S. (Kansas State Agricultural College),
Professor of Botany.

WILLIAM ARCH McKEEVER, A. M. (University of Kansas), Ph. M. (University of Chicago),
Professor of Philosophy.

EDMUND B. McCORMICK, S. B. (Massachusetts Institute of Technology),
Professor of Mechanical Engineering, Superintendent of Shops.

ALBERT DICKENS, M. S. (Kansas State Agricultural College),
Professor of Horticulture, Superintendent of Orchards and Gardens.

CLARK M. BRINK, A. M. (U. of R.), Ph. D. (University of City of New York),
Professor of English.

ALBERT M. TEN EYCK, B. Agr. (Wisconsin),
Professor of Agriculture, Superintendent of Farm.

MRS. HENRIETTA W. CALVIN, B. S. (Kansas State Agricultural College),
Professor of Domestic Science.

RALPH R. PRICE, A. B. (Baker), A. M. (University of Kansas),
Professor of History and Civics.

JULIUS E. KAMMEYER, A. M. (Central Wesleyan College),
Professor of Economics.

OSCAR ERF, B. S. Agr. (Ohio State University),
Professor of Dairy Husbandry.

PEARL M. SHAFFER, Captain Twenty-fifth Infantry, U. S. A.,
Professor of Military Science.

JOHN V. CORTELYOU, A. M. (University of Nebraska), Ph. D. (Heidelberg),
Professor of German.

OLOF VALLEY, B. M. (Chicago Conservatory of Music),
Professor of Music.

FRANCIS S. SCHOENLEBER, M. S. A. (Iowa State Agricultural College), D. V. S. (Chicago Veterinary College), M. D. (National Medical University and Harvey Medical College),
Professor of Veterinary Science.

ROLAND J. KINZER, B. S. Agr. (Iowa State College),
Professor of Animal Husbandry.

JOSHUA D. RICKMAN (International Typographical Union),
Superintendent of Printing.

BENJAMIN S. McFARLAND, A. M. (Miami),
Principal of Preparatory Department.

Miss MARGARET J. MINIS, B. S. (Kansas State Agricultural College),
Librarian.

Miss MARGUERITE E. BARBOUR, (Sargent Normal School of Physical Training),
Director of Physical Training.

Miss ANTONETTA BECKER,[1] (Drexel Institute),
Superintendent of Domestic Art.

Miss LORENA E. CLEMONS, B. S. (Kansas State Agricultural College),
Secretary.

---

1. Since January 1, 1906.

Assistants.

JACOB LUND, M. S. (Kansas State Agricultural College),
Superintendent Heat and Power Department.

MISS ALICE RUPP (Indiana State Normal), A. M. (Kansas State Agricultural College),
Assistant Professor of English.

CLARENCE L. BARNES, D. V. M. (Cornell University),
Assistant Professor of Veterinary Science.

JOHN O. HAMILTON, B. S. (University of Chicago),
Assistant Professor of Physics.

OSCAR H. HALSTEAD, B. S. (Kansas State Agricultural College),
Assistant Professor of Mathematics.

ANDREY A. POTTER, S. B. (Massachusetts Institute of Technology),
Assistant Professor of Mechanical Engineering.

ROBERT H. BROWN, B. M. (Kansas Conservatory of Music), B. S. (Kansas State Agricultural College),
Assistant Professor of Music.

MISS FLORA ROSE, (Framingham, Mass., Normal), B. S. (Kansas State Agricultural College,
Assistant Professer of Domestic Science.

VERNON M. SHOESMITH, B. S. (Michigan Agricultural College),
Assistant Professor of Agriculture.

WALTER E. MATHEWSON, B. S. (Kansas State Agricultural College),
Assistant Professor of Chemistry.

MISS ADA RICE, B. S. (Kansas State Agricultural College),
Instructor in English.

WILLIAM L. HOUSE,
Foreman of Carpenter Shop.

WILLIAM ANDERSON, B. S. (Kansas State Agricultural College),
Assistant in Physics.

MISS GERTRUDE BARNES,
Assistant Librarian.

LOUIS WABNITZ,
Foreman of Machine-shops.

MISS INA E. HOLROYD, B. S. (Kansas State Agricultural College), (Kansas State Normal),
Assistant in Preparatory Department.

AMBROSE E. RIDENOUR, B. S. (Kansas State Agricultural College),
Foreman of Foundry.

GEORGE A. DEAN, B. S. (Kansas State Agricultural College),
Assistant in Entomology.

MISS EMMA J. SHORT,
Assistant in Preparatory Department.

MISS INA F. COWLES, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

MISS MAUD M. COE, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

ROSCOE H. SHAW,[2] B. S. (New Hampshire College of Agriculture and Mechanic Arts),
Assistant Chemist, Experiment Station.

THEO. H. SCHEFFER, A. M. (Cornell University),
Assistant in Zoology.

MISS KATE TINKEY,
Assistant Librarian.

EARL N. RODELL, B. S. (Kansas State Agricultural College),
Assistant in Printing.

MISS CAROLINE HOPPS, Ph. B. (University of Chicago),
Assistant in English.

MISS HELEN THOMPSON, B. S. (Kansas State Agricultural College),
Assistant in Preparatory Department.

MISS ELLA WEEKS, A. B. (University of Kansas),
Assistant in Drawing.

R. F. BOOTH, B. S. (Northwestern),
Assistant in Mathematics.

ROBERT E. EASTMAN, M. S. (Cornell University),
Assistant in Horticulture.

MISS DAISY ZEININGER, B. A. (Fairmount),
Assistant in Mathematics.

ROY A. SEATON, B. S. (Kansas State Agricultural College),
Assistant in Mathematics.

---

2. Till January 1, 1906.

HERNON C. KYLE, B. S. (Kansas State Agricultural College),
Assistant in Agriculture.

GEORGE F. FREEMAN, B. S. (Alabama Polytechnic Institute),
Assistant in Botany.

M. FRANCIS AHEARN, B. S. (Massachusetts Agricultural College),
Foreman of Greenhouses.

FRED C. NICHOLSON,[3]
Foreman of Blacksmithing.

Miss CECELIA AUGSBURGER (Illinois Wesleyan),
Assistant in Music.

CHARLES W. MELICK, B. S. (University of Nebraska),
Assistant in Dairy Husbandry.

Miss ALICE LOOMIS, B. S. (Kansas State Agricultural College),
Assistant in Preparatory Department.

GEORGE P. JACKSON, Ph. B. (Chicago),
Assistant in German.

Miss GERTRUDE STUMP, B. S. (Kansas State Agricultural College),
Assistant in Domestic Art.

M. SHELDON BRANDT, Ph. B. (Yale),
Assistant in Architecture and Drawing.

HOWARD R. WATKINS, M. S. (Iowa State College),
Assistant in Chemistry.

HEMAN A. WOOD, B. S. (Olivet),
Assistant in Chemistry.

GEO. C. WHEELER, B. S. (Kansas State Agricultural College),
Assistant in Animal Husbandry.

LEONARD W. GOSS, D. V. M. (Ohio State University),
Assistant in Veterinary Science.

MELVERN F. THOMAS,[4] B. S. (Texas Agricultural and Mechanical College),
Assistant in Mechanical Engineering.

EARLE B. MILLIARD,[5]
Foreman of Blacksmithing.

CHARLES YOST,
Assistant in Heat and Power Department.

---

3. Till March 24, 1906.
4. Since January 1, 1906.
. Since March 25, 1906.

Other Officers.

MISS ALICE M. MELTON, B. S. (Kansas State Agricultural College),
Clerk in Director's Office.

MISS SARAH HOUGHAM, B. S. (Kansas State Agricultural College),
Clerk in Botanical Department.

MISS EDITH HUNTRESS,[1] B. S. (Kansas State Agricultural College),
Record Clerk, Secretary's Office.

MISS MARGARET BUTTERFIELD,
Bookkeeper.

MISS MARY DAVIS, B. S. (Kansas State Agricultural College),
Record Clerk, Secretary's Office.

MISS VERA McDONALD, B. S. (Kansas State Agricultural College),
Post-office Clerk.

ARCH. HUYCKE,[2]
Secretary to President.

WALTER H. CLOSSON,[3]
Secretary to President.

WILLIAM R. LEWIS.
Janitor.

Student Assistants.

ERNEST L. ADAMS, Agriculture.
AMY ALLEN, B. S., Printing.
GRACE ALLINGHAM, B. S., Mathematics.
RAYMOND R. BIRCH, Animal Husbandry.
JOHN W. CALVIN, Chemistry.
ALEXANDER B. CRON, Agriculture.
EDITH DAVIS, B. S., Domestic Science.
LEONARD R. ELDER, Surveying.
MARY A. ELDER, English.
HARRIET M. ESDON, Library.
LENA FINLEY, B. S., Domestic Science and Preparatory.
W. B. GERNERT, Agriculture.
RENWICK GREENE, Horticulture.
MAY HARRIS, B. S., Preparatory.
GERTRUDE HILLIARD, Accompanist.
GERTRUDE E. HOLE, Chemistry.
GROVER KAHL, Surveying.
LAURA LYMAN, Preparatory.
WILLIAM T. McCALL, Dairying.
CORA E. McNUTT, Library.
EDWARD M. MIERS, Physiology.
CHARLOTTE MORTON, Drawing.
AMER B. NYSTROM, Dairying.
HENRY OTTO, Veterinary.
EDWIN W. McCRONE, B. S., Veterinary.
J. L. PELHAM, Horticulture.
LORA PERRY, Piano.
HARRY E. PORTER, Surveying.
FANNY REYNOLDS, B. S., Preparatory.
JESSIE REYNOLDS, Preparatory.
CLYDE RICKMAN, Printing.
JENNIE RIDENOUR, B. S., Domestic Art.
EDWIN G. SCHAFER, Agriculture.
CLARA SCHIELDS, Preparatory.
MILTON D. SNODGRASS, Agriculture.
SOGO SUZUKI, Dairying.
ELIZABETH SWEET, B. S., Physiology and Bacteriology.
WALTER TAYLOR, Stenographer.
MARCIA TURNER, English.
ELSIE WATERS, B. S., Preparatory.
FRED L. WILLIAMS, Agriculture.
GRACE WOOD, B. S., Mathematics and Music.
EDITH WORDEN, English.
ERNST A. WRIGHT, Physics and Surveying.
GUY E. YERKES, Horticulture.

1. Till April 1, 1906.
2. Till April 1, 1906.
3. Since April 10, 1906.

Experiment Station.

The Council.

President NICHOLS, Chairman.
Professor WILLARD, Chemist and Director.
Professor POPENOE, Entomologist.
Professor ROBERTS, Botanist.
Professor DICKENS, Horticulturist.
Professor TEN EYCK, Agriculturist.
Professor ERF, Dairy Husbandman.
Professor SCHOENLEBER, Veterinarian.
Professor KINZER, Animal Husbandman.

Assistants.

VERNON M. SHOESMITH, Agriculture.
GEO. A. DEAN, Entomology.
CLARENCE L. BARNES, Veterinary Science.
ROSCOE H. SHAW,[1] Chemistry.
ROBERT E. EASTMAN, Horticulture.
GEORGE F. FREEMAN, Botany.
CHARLES W. MELICK, Dairy Husbandry.
GEO. C. WHEELER, Animal Husbandry.
WALTER E. MATHEWSON,[2] Chemistry.
Miss ALICE M. MELTON, Clerk in Director's office.

Fort Hays Branch

OTTO H. ELLING, Foreman.
A. D. COLLIVER, Assistant in Agriculture.
RENWICK GREENE,[3] Assistant in Horticulture.
GEO. K. HELDER, Bookkeeper.

1. Till January 1, 1906.
2. Since January 1, 1906.
3. Since April 1, 1906.

The College Battalion.

The following is a roster of the commissioned and non-commissioned officers of the Kansas State Agricultural College Corps of Cadets for 1905–'06:

CAPT. PEARL M. SHAFFER, Twenty-fifth United States Infantry, Commandant of Cadets.

STAFF.

JAMES A. LUPFER..... Cadet First Lieutenant and Battalion Adjutant.
LEROY E. GASTON..... Cadet First Lieutenant and Battalion Quartermaster.
ELMER BULL..... Cadet Sergeant-major.
GEORGE S. WARREN..... Cadet Quartermaster-sergeant.
EARL W. EDWARDS..... Cadet Color-sergeant.
JAMES C. HUGHES..... Cadet Sergeant and Chief Trumpeter.

INFANTRY.

RANK.	Company A.	Company B.	Company C.	Company D.
Captain	Earl J. Evans	Chauncey I. Weaver	Harry R. Heim	Charles H. Withington.
First Lieutenant	Leslie E. Hazen	John W. Calvin	Martin R. Shuler	James M. Ryan.
Second Lieutenant	Orr O. Morrison	Dillard H. Clark	Joseph W. Painter	Clarence Lambert.
First Sergeant	Raymond W. Brink	Sol. W. Cunningham	Charles J. Willard	Allen G. Phillips.
Sergeants	Robert A. Grant	Ira A. Wilson	Eugene M. Ruede	David A. Kratzer.
	Eldridge J. Best	Harold E. Cate	Lewis G. Cook	Charles M. Alspach.
	Wayne B. Cave	Oley B. Weaver	Guy C. Rexroad	Theo. L. Cowen.
	William Hemphill		Joe G. Lill	Harry W. Hanson.
Corporals	Herman A. Praeger	Lawrence W. Haines	Gilbert G. Ghormley	Owen H. Thomas.
	Charles E. Cassel	Charles F. Topping	Rudolph B. Nelson	John Schlaefli.
	Casey C. Bonebrake	William Droge	Claude L. Shaw	Frank E. Halm.
	George Wright	Roy C. Thompson	Karl Morris	John F. O'Connor.
Musicians	J. A. Langley	J. P. Naff	F. T. Rader	Claude C. Madison.
	Albert Bell		Loyd Willis	M. O. Nyberg.

The College Band.

The following is the roll of the College Band for the year 1905–'06:

R. H. BROWN, DIRECTOR.

F. FARRAR, Drum-major.

H. E. BIXBY, Principal Musician.

Sergeants: F. W. GRABENDYKE, D. WALTERS, H. E. PORTER, P. M. ROBERTS, A. H. ROSE.

Corporals: A. W. SENG, R. R. HAND, L. A. STURGIS, G. B. GRIFFITH, G. R. EATON, F. W. WINTERS.

Oboe:
P. M. Roberts.

Piccolo:
L. W. Lawson.

Saxophones:
M. O. Nyberg.
A. D. McCampbell.
C. Heltman.

Clarionets:
F. W. Grabendyke.
H. B. Hubbard.
O. B. Harts.
G. R. Eaton.
G. B. Griffith.
J. R. Carnahan.
F. R. Machin.
H. D. Strong.
J. Tinkham.
A. C. Hempler.

Cornets:
M. Elsas.
A. J. Cowles.
L. A. Sturgis.
O. A. Shelton.
W. King.
O. M. Kiser.
H. Pennington.

Tympani:
M. Oteyza.

Horns:
A. H. Rose.
L. C. Morgan.
R. R. Hand.
L. G. Hoffman.
C. Snider.

Trombones:
F. Florell.
E. E. Smith.
F. J. Kirgis.
R. Moorman.
R. Tinkham.
F. Dixon.

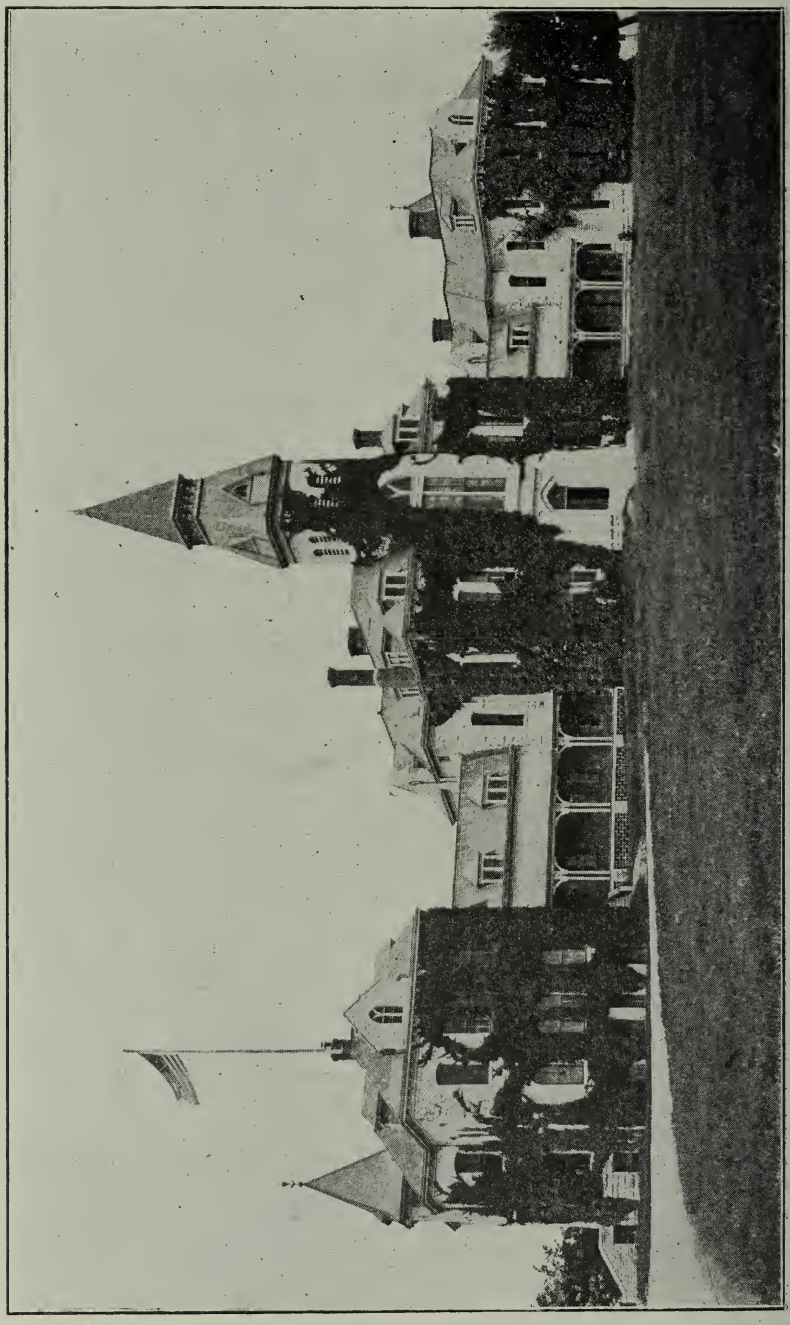
Baritone:
A. G. Kittell.

Euphonium:
H. E. Bixby.

Bassoon:
D. Walters.

Basses:
A. W. Seng.
H. E. Porter.
M. Marty.
C. O. Farris.
G. G. Murphy.

Drums:
C. L. Kipp.
F. Rader.
F. W. Winters.
R. K. Evans.
W. Ross.



ANDERSON (MAIN) HALL.

History and Resources.

THE income of the College is derived from two sources—national and state. The original land-grant act was signed by President Lincoln July 2, 1862. This act appropriated 30,000 acres of land for each senator and representative in Congress. Under the provisions of this act this state was to receive 90,000 acres. The amount actually received was 82,315.52 acres. This land was to be sold and the proceeds to be a permanent endowment, to be invested in bonds bearing not less than five per cent. interest. The amount of this endowment is $492,381. "The interest of which shall be inviolably appropriated by each state which may take and claim the benefit of this act to the endowment, support and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

The income derived from this endowment since 1880 is given in the column headed "Interest Fund," page 16.

Under this act, the state of Kansas, in 1863, established the State Agricultural College, by endowing Bluemont College, which had been erected two miles from Manhattan, under the auspices of the Methodist Episcopal church, but was presented to the state for the purpose named in the act of Congress.

In 1873 the College was reorganized upon a thoroughly industrial basis, with prominence given to agriculture and sciences related thereto; and in 1875 the furniture and apparatus of the College were moved to the farm of 223 acres, one mile from the city of Manhattan.

In March, 1887, Congress passed the "Hatch bill," which provided for the organization in each state of a station for agricultural experiments, and gave to each an annual appropriation of $15,000 for this purpose. See "Experiment Station," page 22.

On August 30, 1890, another act was passed by Congress, known as the "Morrill bill." It provided for an annual appropriation, beginning with $15,000 for year ending June 30, 1890, with an annual increase for ten years of $1000 over the preceding year, the annual amount thereafter to each state to be $25,000. This money is "to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic sciences, with especial reference to their applications in the industries of life, and to the facilities for such instructions."

TABULATED FINANCIAL EXHIBIT.

Fiscal Year.	State Appropriations.								Inventory increase	Expense	National Appropriations.			Enrolment	Graduates
	Miscellaneous	Current expense	Water and coal	Repairs	Library	Equipment	Buildings	Totals			Interest fund	Morrill fund	Experiment Station		
1863–'80							$45,645	$155,302	$86,009						56
1880–'81	$17,979[1]			$800		$1,950		2,750	3,316	$19,502	$24,766			267	8
1881–'82					$1,000		15,000	16,000	19,784	27,914	17,622			312	9
1882–'83					1,000		15,000	16,000	24,448	29,660	31,551			347	12
1883–'84				500	500	500	7,550	9,000	12,295	34,844	32,638			395	17
1884–'85	4,613[1]			500	500	500	15,000	16,500	37,105	42,646	32,213			402	14
1885–'86				700		600	10,000	11,300	34,721	45,827	38,595			428	21
1886–'87				1,400			4,100	5,500	12,910	38,788	32,253			481	21
1887–'88	2,264[1]			1,000	1,000	4,700	8,817	15,517	16,597	35,768	32,331		$15,000	472	22
1888–'89	3,000[2]			1,000	1,000	2,500		7,500	10,334	32,027	31,686		15,000	445	25
1889–'90			$1,425	1,900	1,000	2,900	1,000	8,225	8,732	29,892	34,131		15,000	514	27
1890–'91			1,649	1,200	1,000	2,950		6,799	6,857	43,330	28,765	$31,000	15,000	593	52
1891–'92	3,000[2]		325	3,050	250		4,000	10,625	15,219	50,722	29,654	17,000	15,000	584	35
1892–'93			500	1,500	250			2,250	18,381	57,012	30,187	18,000	15,000	587	39
1893–'94			484	1,000			74,000	75,484	7,846	54,989	29,761	19,000	15,000	555	39
1894–'95			190				2,000	2,190	79,736	51,156	29,390	20,000	15,000	572	57
1895–'96	1,625[3]		1,995	4,300	999	5,057	3,480	17,456	13,933	51,928	26,988	21,000	15,000	647	66
1896–'97		$10,000	2,084	1,300	1,000	550	1,300	16,234	157	51,500	28,669	22,000	15,000	734	55
1897–'98	629[4]	5,000	2,000	1,700	1,000	3,200	16,599	30,128	16,171	56,516	27,677	23,000	15,000	803	69
1898–'99		5,000	2,000	1,000		1,050		9,050	2,993	63,704	29,549	24,000	15,000	870	53
1899–1900	7,360[5]	10,000	2,250	3,000	1,500	22,240	43,500	89,350	45,582	56,956	25,160	25,000	15,000	1,094	58
1900–'01	18,993[6]	10,000	2,250	3,000	1,500			35,743	3,380	65,822	30,910	25,000	15,000	1,321	60
1901–'02	4,130[7]	25,000	2,800	3,000	1,500	9,100	75,000	120,530	79,917	73,467	25,371	25,000	15,000	1,396	52
1902–'03	4,130[7]	30,000	2,800	3,000	1,500	8,500	10,000	59,930	47,234	91,891	22,970	25,000	15,000	1,574	54
1903–'04	15,830[8]	40,000	5,000	5,000	1,500	18,500	65,000	150,830	82,490	86,631	25,688	25,000	15,000	1,605	102
1904–'05	5,330[9]	50,000	3,500	5,000	1,500	18,500	5,000	88,830		132,605	25,648	25,000	15,000	1,462	
1905–'06		90,000					42,000	132,000				25,000	15,000		
1906–'07		100,000					28,000	128,000				25,000	20,000		
Total								$1,239,523							

[1] To restore endowment (not included in totals.) [2] Water-mains and sewer.
[3] $1500 cadet uniforms, $125 sewers. [4] Rent president's house.
[5] $2000 farmers' institutes, $1800 salary state veterinarian, $3000 sewer, $500 rent president's house.
[6] $2000 farmers' institutes, $1800 salary state veterinarian, $300 rent president's house, $14,893 deficiency June 30, 1899.
[7] $2000 farmers' institutes, $1800 salary state veterinarian, $330 rent president's house.
[8] $2000 farmers' institutes, $2000 salary state veterinarian, $330 rent president's house, $10,500 purchase of land, $1000 contingent fund.
[9] $2000 farmers' institutes, $2000 salary state veterinarian, $330 rent president's house, $1000 contingent fund.

Grounds and Buildings.

THE College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing toward the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard and sample gardens attached, the whole being surrounded by durable stone walls. The grounds are tastefully laid out and extensively planted according to the design of a professional landscape-gardener, while well-graveled drives and good walks lead to the various buildings. All these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation-rooms are excellently lighted and ventilated, and are heated by steam or hot water. A complete system of sewerage has been provided. The College owns 430 acres of land, valued at $50,000, and leases 150 acres additional. The greater portion of these 580 acres is devoted to experiments.

ANDERSON (MAIN) HALL is 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors This building contains, in its two stories and basement, offices of the President and Secretary, cloak-room, studies, chapel, post-office, and offices and classrooms of the departments of architecture and drawing, music, mathematics, oratory, English, philosophy, preparatory, and printing. Cost, $79,000. The value of the equipment and apparatus in this building is as follows: Executive, $6790; architecture and drawing, $2376; music, $2303; mathematics, $1536; economics, $57; English, $133; preparatory, $53; printing, $5127.

MECHANICS HALL contains the following rooms, forming a connected structure: Wood shop, two stories, 40x103 feet. The upper floor contains office and drafting-room for the department of mechanical engineering. The lower floor contains benches for 220 students, and complete set of wood-working machinery and tools. Machine-shop, 40x80 feet; blacksmith shop, 40x50 feet; iron foundry, 40x50 feet; brass foundry, 16x30 feet; pipe-fitting room, 18x50 feet; engineering laboratory, 35x40 feet; power-room, 35x40 feet; boiler-room, 40x75 feet. Cost of buildings, $33,125; value of equipment, $33,195.

GYMNASIUM, one story, 35x110 and 46x75 feet of floor space, is

in form of a cross. It contains a drill-room 46x75 feet, a large class-room, cloak-room, dressing-room, toilet-room, ten bath-rooms, and two offices. Cost, $10,000. Value of equipment, $620.

ARMORY, 46x95 feet, is a two-story building. This building, which has served many purposes, is now fitted below for an armory and drill-room, and offices of military department; also dressing-room and bath-room for the various athletic teams; and above are classrooms, laboratories, offices and museum of the veterinary department. Cost of building, $11,250. Value of equipment and apparatus: Military, $146; veterinary, $5097.

FAIRCHILD (LIBRARY) HALL is 100x140 feet, three and four stories high. This building provides permanent quarters for the library, with ample reading-rooms and offices, classrooms and laboratories for the departments of entomology and zoology, and bacteriology, a classroom and office for the department of history and civics, general museum, and rooms for the various literary societies. Cost of building, $67,750. Value of equipment and apparatus: History and civics, $156; entomology and zoology, $9787.

KEDZIE (DOMESTIC SCIENCE) HALL is 84x70 feet, two stories and basement. The first floor contains office, lecture-rooms and laboratories for the department of domestic science. The second floor is occupied by the department of domestic art. Cost of building, $15,000. Value of apparatus: Domestic science, $2294; domestic art, $620.

AGRICULTURAL HALL, 90x95 feet, with its two stories and basement, contains offices, classrooms and laboratories for the departments of agriculture and animal husbandry. Cost of building, $25,000. Value of equipment: Agriculture, $8441; animal husbandry, $24,611.

PHYSICAL SCIENCE HALL is 96x166 feet, and its two stories and basement contain offices, classrooms and laboratories for the departments of chemistry, and physics and electrical engineering. It is heated by both direct and indirect radiation, thus insuring perfect ventilation. Cost of building, $70,000. Value of equipment: Chemistry, $11,520; physics and electrical engineering, $13,612.

AUDITORIUM is 113x125 feet, and has a seating capacity of 3000. Cost of building, $40,000.

DAIRY HALL is 72x103 feet, one story and basement. It contains office, classroom, butter-manufacturing room, cheese- and cheese-curing rooms, hand-separator room, laboratory, and refrigerator. Cost of building, $15,000. Value of equipment, $15,745.

Horticultural Hall (new) is 72x116 feet having basement, two stories, and attic. The basement and first floor contain classrooms, laboratories and offices for the horticultural department; the second floor contains similar rooms to be used by the botanical department. The attic will provide rooms for horticultural and botanical museums. Cost, $50,000. Value of equipment and apparatus: Horticulture, $20,325; botany, $14,193.

Horticultural Hall, 32x80 feet, is a one-story building with cellar, having museum, classroom, and storage, with greenhouses attached. Cost of building was $4200.

Horticultural Laboratory contains offices, workroom, five propagating houses, and insectary. Cost, $5000.

The Granary is 40x50 feet, having basement, two stories, and attic. It contains a thrashing-floor, drying-room, office, and bins for the many varieties of corn, wheat, oats, barley, etc. Cost of building, $5000.

The Farm Barn is a double but connected stone structure, 50x75 feet and 48x96 feet, with an addition of sheds and experimental pens 40x50 feet. The south wing, 48x96 feet, is the stock-judging room, having a seating capacity of 350. A basement underlies the entire structure. Cost, $10,831.

The Dairy Barn, 40x175 feet, is fitted up with modern swinging stalls for eighty head of cows, arranged in two rows, with driveway between. Cost of building and equipment, $4000.

The Horticultural Barn is a stone building, containing storeroom, granary, and stables for several horses. Cost, $1000.

The College Library is one of the most important supplements to classroom instruction. It consists of 32,000 bound volumes and about 18,000 pamphlets. These books are mainly kept in a general library, but many volumes of technical character are withdrawn and held in departmental libraries. All of the books are indexed in card catalogues, which show their author, title, and to a large degree the details of their contents; also their location. Students are allowed free access to the shelves, a privilege and a source of culture that are given in perhaps no other library of its size in the country. Students may draw books for home use under simple and liberal regulations. The library is open daily, except on legal holidays, from seven A. M. to six P. M., and the librarian or an assistant is in constant attendance during this period to assist those who use the books. By all these means the library is used to the fullest extent and is of inestimable value.

The College subscribes for the leading literary, scientific and agricultural journals, while the principal daily and weekly papers of Kansas, and many from other states, are received in exchange for the College publications. All these are kept on file for the use of students and Faculty. The College has been designated as the depository of United States public documents for the fifth congressional district of Kansas, and 3580 volumes have already been received on this account. Value of books and equipment, $61,915.

MAIN ENTRANCE.

Objects.

This College now accomplishes the objects of its endowment in several ways:

First. It gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second. It teaches the sciences applied to the various industries of farm, shop, and home. Chemistry, physics, botany, entomology, zoology and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants and animals themselves illustrates and fixes the daily lessons. At the same time lessons in agriculture, horticulture, engineering and household economy show the application of science; and all are enforced by actual experiment.

Third. It trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm and household departments is made a part of the general education for usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.

Fourth. It seeks to extend the influence of knowledge in practical affairs beyond the College itself. For this purpose, farmers' institutes have been organized in nearly every county of the state, in which from one to three members of the Faculty share with the people in lectures, essays and discussions upon topics of most interest to farmers and their families. These institutes have brought the College into direct sympathy with the people and their work, so as to make possible a general dissemination of the truths presented. Members of the Faculty are also prominently connected with the state associations for the promotion of agriculture, horticulture, and natural sciences, and education in general. Correspondence as to farmers' institutes or any question of practical interest in agriculture or related sciences is desired.

The *Industrialist*, published by the College, edited by the Faculty, and furnished to each student, gives a wide circulation to matters of interest in the College.

THE EXPERIMENT STATION.

The Agricultural Experiment Station of the College is organized and maintained under the provisions of what is known as the "Hatch act." It is officially designated as "An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July 2, 1862, and the acts supplementary thereto." This was enacted "in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and practice of agricultural science." The law specifies in detail "that it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses for forage-plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The Experiment Station, so established, is an important feature of the College. The President of the College, with the professors of agriculture, botany, chemistry, dairy husbandry, animal husbandry, horticulture, entomology, and veterinary science, form the Experiment Station Council, by authority of which experiments are undertaken, and carried on in the several departments under supervision of the professors. The heads of certain important departments of instruction in the College are thus also in charge of the several departments of investigation of the Station, and to a certain extent assistants serve in both capacities. The Experiment Station, therefore, is not definitely localized at the institution, but its work and property are more or less woven in with that of the College. The expenses of the Experiment Station work are separately accounted for, however, and its property is listed in

separate inventories. While this arrangement involves some difficulties, it also posesses many advantages—advantages which are mutual. The College work profits by having the investigations of the Station going on alongside. The Station profits in that it thus obtains, without charge, the use of the College farm, buildings, heat, light, various collections, museums, and in some cases apparatus. The expenses of the Experiment Station are met by an appropriation by Congress of $15,000 per annum. The aims of the Station may be said to be twofold—those which lead to immediate returns, and those the object of which can be reached only after a series of years. Experiments of the greatest value are often of the latter kind, but if the work of the Station were limited to such, the public would feel that nothing is being accomplished. It is the intention of the Station force to make all of its experiments practical, in the sense that they lead to results which, indirectly if not directly, benefit the agricultural interests of the country.

The Hatch act provides "that bulletins of reports of progress shall be published at least once in three months, one copy of which shall be sent to each newspaper in the state or territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the Station will permit." The publications of the Station include annual reports, bulletins, and press bulletins.

Since 1889 the annual reports contain no details of experiments, but simply outlines of the work of the year in general in the several departments, and including the financial statements required by law. These annual reports, not being of general interest, therefore, are printed in but small numbers, and sent to libraries and officials only, except on special request.

The bulletins are the means of communicating the results of the Station work directly to the farmers. They are issued in the quantities judged necessary to meet the demand. All investigations are described in them when completed, and they are sent to all on our mailing-lists. During the history of the Station the number issued has averaged about eight per annum.

The press bulletins are issued in limited numbers and sent to the papers, to certain state and county officers, and to a considerable number of public and semipublic institutions. They are short, readable, and popular, but at the same time accurate, articles on subjects of current interest, and embodying observations and experiments of members of the Station staff. Extra copies of some of them are printed for use in answering inquiries.

Persons desiring to receive the Station bulletins are requested to address Agricultural Experiment Station, Manhattan, Kan. General correspondence in reference to the Station should be sent in the same way, but inquiries concerning any special line of investigation should be sent to the head of the department in charge of such work.

Fort Hays Branch Station.—Congress, in an act approved March 27, 1900, ceded the Fort Hays military reservation, containing 7597.93 acres, to the state of Kansas, on the condition that the state would establish and maintain there branches of the State Normal School and of the Experiment Station. The state legislature accepted the reservation in an act approved February 7, 1901, and designated a division of the land between the Normal School and the Agricultural College, by which the latter obtained about 3500 acres, including the parts most desirable for agricultural purposes. Situated west of the ninety-ninth meridian, the station will occupy a field entirely different climatically from that of any other station in the country, and the results obtained there ought to benefit a large region extending even beyond the boundaries of the state. Experiments are being tried on a large scale in making tests of varieties and methods of culture, with special reference to the needs of regions with deficient rainfall. Experiments are also made to determine the feeding value of the drought-resisting crops produced. This Branch Station is supported by state appropriations. The funds appropriated by Congress cannot be used for the support of substations.

INDUSTRIAL TRAINING.

This institution is preëminently industrial in its aims, methods, and tendencies. While the pure sciences, mathematics and other studies are rigorously taught, there is constantly present a practical atmosphere which incites the student to an application of the principles taught, and thus lends interest and value to the work. In nearly every term of the four-year course the student gives one hour per day to industrial training of one kind or another. This awakens and deepens sympathy with industry and toil, impresses the student with the essential dignity of labor, thus educating toward the industries instead of away from them, and lays a good foundation for a life-work in industrial and technical lines. Even should students not all return to the farm, the shop, or to housewifery, the wider knowledge afforded them and the broader sympathies engendered cannot but redound to their good, and to the advantage of society at large and the industrial classes in particular.

Throughout the first year young men take their industrial in the shops. They thus get a familiarity with tools and methods which enables them to do the wood- and ironwork commonly needed on the farm, and which is useful to all everywhere. The young women take sewing during the first year, and a certain amount of cooking practice. The utility of this needs no argument. After the first year there are differences in the industrial requirements corresponding to differences in the several courses of study. In the domestic science course the various lines of household art constitute almost the entire industrial work, floriculture being given one term. In the mechanical engineering course shop work in one or another of its various kinds is required every term. In the agriculture course the industrials include practical instruction in the fields, orchards, gardens, and dairy, and in feeding. The general science course offers more latitude in choice of industrials after the first year. Young women may take sewing, cooking, printing, floriculture, or music. Young men may have woodwork, ironwork, dairying, farming, gardening, fruit-growing, or printing. The availability of these industrials depends somewhat on the season in some cases, so that not all are open each term. In addition to the above, a limited number of students is allowed typewriting as the industrial, upon recommendation of the head of a department having a machine.

The labor of students during assigned industrial time is not paid for, as its object is educational, and the student receives full value in the training afforded. In all the instruction in industrial lines special attention is given to making the courses systematic and progressive. Students desiring to give extra attention to such work are allowed every opportunity that the departments can afford. Many students acquire sufficient proficiency to be able to turn their skill to a financial advantage during the latter term of their courses, and all who apply themselves with any diligence obtain a training that cannot fail to be of great benefit to them in after-life. The work of the several industrials will be found described in detail under the individual headings.

SPECIAL COURSES.

Persons of suitable age and advancement, who desire to pursue such branches of study as are most directly related to agriculture or other industries, may select such studies, under the advice of the Faculty. In general, however, no one will be allowed a special course until he has completed the work of the freshman year.

GRADUATE COURSES.

Arrangements can be made for advanced study in the several departments at any time, and outlines of courses will be furnished on application. The electives of the extended course are open to graduates, and special opportunities will be given for investigation and research. Every facility for advancement in the several arts taught at the College will be afforded such students, though they are not required to pursue industrial training while in these courses.

DEGREES.

The degree of bachelor of science is conferred on all students who complete any one of the four-year courses: Agriculture, domestic science, general science, mechanical engineering, electrical engineering, or architecture; and the degree of doctor of veterinary medicine on all who complete the course in veterinary science.

The degree of master of science will be conferred in course upon graduates of the College who have received eighteen credits in an approved graduate course, each credit being equivalent to a full study pursued for three months.

Courses will be approved which are in line with any one of the regular undergraduate courses, and include at least six credits in the biological or the physical sciences, or mathematics, and at least six credits in technical or industrial branches.

The principal line of study shall be designated as the major, and another line as the minor study. As nearly as may be, one-third of the time is to be given to the minor and two-thirds to the major study, including in the latter such scientific, mathematical or technical branches as contribute directly to it. The minor study must fill a logical place in the scheme, so that the work as a whole may possess unity. Three minor credits may be a modern language.

Applications for graduate study shall be passed upon by the committee on graduate courses and referred by them to the Faculty for action. If approved by the Faculty, the candidate shall obtain an assignment at the beginning of each term for the studies intended to be pursued during the ensuing term. At the close of each term examinations shall be given in all branches, and the candidate shall be reported as "passed" or "not passed."

Applications for entrance upon graduate study and for changes in major or minor subjects must be presented to the committee on graduate courses within the first week of a College term.

Non-resident candidates will be required to send to the professors in charge of the departments of their major and minor sub-

jects a full and complete report at the middle and end of each term of the work accomplished within that period. Failure to comply with this requirement will cause the candidate to be dropped from the roll of graduate students, to be reinstated only upon approval of the Faculty. At the end of each term the date, place and manner of the examination of non-residents shall be determined by the instructors concerned.

Upon the completion of the required work, and by the 15th day of May of the year in which the degree is desired, each candidate shall present to the committee on graduate courses, typewritten and in duplicate, a satisfactory thesis involving original work along the lines of his major subject. Thereupon a special examining committee of three shall be appointed from the Faculty, of whom one member shall represent the major subject and another the minor, who shall examine the candidate orally on the subject-matter of his thesis, and report the result of such examination to the Faculty. Upon receipt of the report of this committee, the Faculty will take action concerning the recommendation of the candidate for the degree.

The subject of the thesis must be presented to the committee on graduate courses for approval by the 1st day of January preceding the commencement at which the degree is desired.

Outlines of direction for study and research in various arts and sciences, with special adaptation to the wants and opportunities of individual applicants, will be furnished, at request, to all graduates; and professors in charge will gladly aid by correspondence in any researches undertaken.

The degree of master of science may be conferred upon the graduates of other colleges of like grade with our own, provided the applicant shall first satisfy the Faculty of his proficiency in the industrial studies distinctive of this institution, on the following conditions:

1. The applicant for the master's degree must be a graduate of at least three years' standing, and a resident of Kansas.

2. His graduate study shall have been in line with that required of graduates of this College, as published in our catalogue.

3. He must make application for the degree on or before the 1st day of January preceding the granting of the same. The application must be accompanied with a statement of his course of study, the work upon which the claim for the degree is based, and the subject selected for his thesis.

4. By April 1, an abstract of the thesis must be submitted to the Faculty.

5. Before May 15, the applicant shall present himself for examination. The examination shall be thorough and extensive, and shall be conducted by a special committee of the Faculty.

COURSES OF STUDY.

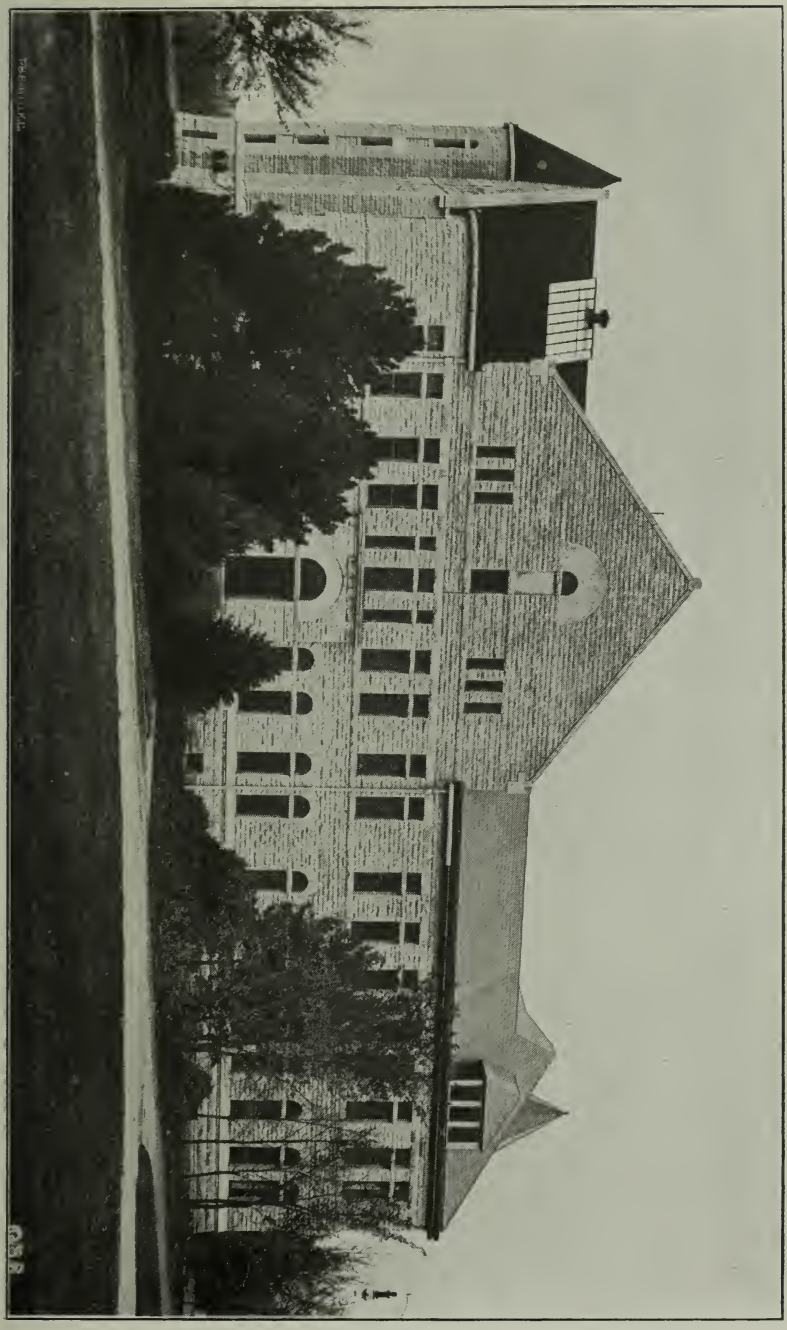
With a view to providing for the wants of the various classes of students, the following courses of study are offered:

1. Four-year courses in (*a*) general science, (*b*) agriculture, (*c*) domestic science, (*d*) mechanical engineering, (*e*) electrical engineering, (*f*) architecture, (*g*) veterinary science. The degree of bachelor of science is given upon completion of each of these courses except veterinary science, for which the degree is doctor of veterinary medicine.

2. Short courses in (*a*) dairying, (*b*) domestic science, (*c*) agriculture.

Full explanations of the several courses, and of the studies included in them, will be found under the proper headings, and a general view of the four-year courses is given on the pages following.

All the preparatory and first-year subjects are taught each term, so that students may enter at any term. Students can complete nearly all the work of the first two years by attendance during winter terms only.



FAIRCHILD (LIBRARY) HALL.

ALL COURSES.

FALL TERM.	Geometry I	5
	English Classics	5
	Botany II	5
	Field-work	2
	Free-hand Drawing	2
	Woodwork I or *Sewing I*	4
	Drill or *Physical Training*	4
WINTER TERM.	Geometry II	5
	Advanced Composition	5
	Cooking or Agriculture	5
	Elementary Psychology	1
	Woodwork II or *Sewing II*	3
	Object and Geometrical Drawing	4
	Drill or *Physical Training*	4
SPRING TERM.	Algebra IV	5
	Rhetoric I.	5
	Physics	5
	Laboratory	2
	Blacksmithing I or *Sewing III*	4
	Elementary Projection	2
	Drill or *Physical Training*	4

Music is optional throughout the course.

FOUR-YEAR COURSES.

Figures following studies show class hours per week. Subjects in *italic type* require no study outside of class.

Military drill is optional for young men of the third and fourth years.

The electives are chosen under the direction of the Faculty. In each case, the electives are expected to be in the same line as nearly as possible. The following list is announced for the different courses:

AGRICULTURE.

German	German	German.
Dairying	Dairying	Dairying.
Origin of Breeds and Stock Judging	Live-stock Management and Animal Products	Pedigrees and Advanced Feeding.
Pomology	Forestry	Ornamental Gardening.
Plant Disease	Plant Morphology	Plant-breeding.
Bacteriology	Bacteriology	Bacteriology.
Chemistry	Chemistry	Chemistry.
Veterinary Science	Veterinary Science	Veterinary Science.
Soil Physics	Farm Mechanics II.	Crop Production II.

DOMESTIC SCIENCE.

Trigonometry	Physics I	Physics II.
Logic	Ethics	American Literature.
Geology	Plant Morphology	Vegetable-gardening.
History of Education and School Law	Philosophy of Education	Methods and Management.
Bacteriology	Bacteriology	Bacteriology.
Chemistry	Chemistry	Chemistry.

GENERAL SCIENCE.

Analytical Geometry	Differential Calculus	Integral Calculus.
Domestic Science I	Domestic Science II	Domestic Science III.
Animal Nutrition	Breeds of Stock	Animal Breeding.
Dairying	Crop Production	Farm Mechanics and Management.
Entomology	Entomology	Entomology.
Chemistry	Chemistry	Chemistry.
History of Education and School Law	Philosophy of Education	Methods and Management.
Bacteriology	Bacteriology	Bacteriology.
Music	Music	Music.

For outline of instruction, see page 49 *et seq.*

COURSES OF STUDY—Second Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECHANICAL ENGINEERING.	ELECTRICAL ENGINEERING.	ARCHITECTURE.	VETERINARY.
FALL TERM.	Chemistry I..... 5 *Laboratory*.... 2 Dairying..... 2½ *Laboratory*.... 6 Trigonometry.... 5 *Surveying* ..... 2 Pub. Speak. I ... 2½ *Drill* 4	Chemistry I..... 5 *Laboratory*.... 2 Entomology..... 5 *Laboratory*.... 2 German I..... 5 Pub. Speak. I ... 2½ *Phys. Training*.. 4 or *Music*..... 4	Chemistry I..... 5 *Laboratory*.... 2 Trigonometry.... 5 *Surveying*..... 2 German I..... 5 *Industrial*..... 4 *Drill*..... 4 *Phys. Training*.. 4 or *Music*..... 4	Chemistry I .... 5 *Laboratory*.... 2 Trigonometry.... 5 *Surveying*..... 2 German I..... 5 Shop Lectures I.. 1 *Proj. Drawing*... 2 *Bl'ksmithing II*.. 2 *Drill*..... 4	Chemistry I .... 5 *Laboratory* ... 2 Trigonometry.... 5 *Surveying*..... 2 German I..... 5 Shop Lectures I.. 1 *Proj. Drawing*... 2 *Bl'ksmithing II*.. 2 *Drill*..... 4	Chemistry I.... 5 *Laboratory*.. 2 Trigonometry.. 5 *Surveying*... 2 German I..... 5 Shop Lect. I. .. 1 *Proj. Drawing*, 2 *Bl'ksmith'g II*, 2 *Drill*..... 4	Anatomy I..... 2½ Materia Med. I. 2½ Dairying..... 2½ *Laboratory*.. 3 Chemistry I.... 5 *Laboratory*.. 2 Pub. Speak. I.. 2½ *Histology Lab*, 10 *Drill*..... 4
WINTER TERM.	Chemistry II..... 5 *Laboratory*.... 2 Breeds of Stock.. 2½ *Stk. Judging*... 4 Physiology..... 5 *Laboratory*.... 2 Pub. Speak. II... 2½ *Drill*..... 4	Chemistry II..... 5 *Laboratory*.... 2 Horticulture..... 5 *Floriculture*.... 2 German II..... 5 *Dressmaking and Fabrics*.... 6 *Phys. Training*.. 4 or *Music*.. 4	Chemistry II..... 5 *Laboratory*.... 2 Entomology..... 5 *Laboratory*.... 2 German II..... 5 Pub. Speak. I ... 2½ *Proj. Drawing*... 2 *Drill*..... 4 *Phys. Training*.. 4 or *Music*..... 4	Chemistry IV .... 2½ *Laboratory*.... 4 Kinematics..... 5 German II..... 5 *Desc. Geom* ..... 4 Pub. Speak. I ... 2½ *Foundry*..... 2 *Drill*..... 4	Chemistry IV .... 2½ *Laboratory*.... 2 Kinematics..... 5 German II..... 5 *Desc. Geom* ..... 4 Pub. Speak. I.... 2½ *Foundry*..... 2 *Drill*..... 4	Chemistry IV... 2½ *Laboratory*.. 4 Kinematics .... 5 German II..... 5 *Desc. Geom*.... 4 Pub. Speak. I.. 2½ *Foundry*..... 2 *Drill*..... 4	Physiology..... 5 Materia M. II.. 2 Chemistry II... 5 *Laboratory*.. 2 Breeds of Stk.. 2½ Pub. Speak. II, 2½ *Anatomy I Laboratory*..10 *Drill*..... 4
SPRING TERM.	Chemistry III.... 2½ *Laboratory*.... 7½ Horticulture..... 5 *Laboratory*.... 4 Entomology..... 5 *Laboratory*.... 2 *Drill*..... 4	Chemistry III.... 2½ *Laboratory*.... 7½ Physiology..... 5 *Laboratory*.... 2 Pub. Speak. II... 2½ German III..... 5 *Phys. Training*.. 4 or *Music*.. 4	Chemistry III.... 2½ *Laboratory*.... 7½ Physiology..... 5 *Laboratory*.... 2 Pub. Speak. II... 2½ German III..... 5 *Drill*..... 4 *Phys. Training*.. 4 or *Music*.. 4	Chemistry V..... 2½ *Laboratory* ... 4 German III. ..... 5 Analytical Geom. 5 Pub. Speak. II... 2½ Shop Lectures II, 1 *Mech. Drawing I* 2 *Pattern-making*, 2 *Drill*. 4	Chemistry V..... 2½ *Laboratory* ... 4 German III. .... 5 Analytical Geom. 5 Pub. Speak. II... 2½ Shop Lectures II, 1 *Mech. Drawing I* 2 *Pattern-making*.. 2 *Drill*. 4	Chemistry V.... 2½ *Laboratory*.. 4 German III .... 5 Analyt. Geom... 5 Pub. Speak. II, 2½ Shop Lect. II.. 1 *Mech. Draw. I*, 2 *Pat.-making*.... 2 *Drill*. ... 4	Comp. Phys.... 5 Anatomy II.... 2½ *Laboratory II*, 6 Materia M. III, 2½ Bacteriology... 2½ *Laboratory*.. 4 Chemistry III.. 2½ *Lab'y III*..... 4 *Drill*. ... 4

Music is optional throughout the course.

For outline of instruction, see page 49 *et seq.*

COURSES OF STUDY—Third Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECHANICAL ENGINEERING.	ELECTRICAL ENGINEERING.	ARCHITECTURE.	VETERINARY.
FALL TERM.	European Hist... 5 Veterinary Sci. .. 5 Animal Nut'tion, 5 Bacteriology..... 2½ *Laboratory*.... 4 *Horticult're Laboratory* 2	Rhetoric II ..... 5 Human Nut'tion, 5 Domestic Sci. I .. 2 *Laboratory* ... 4 German IV. ..... 2½ *Color and Des'n*, 4 *Laundering* ..... 2 *Music elective.*	European Hist... 5 Horticulture..... 5 Rhetoric II ..... 5 German IV .... . 2½ *Linear Perspect.* 4 *Industrial*..... 2	Diff. Calculus.... 5 Physics I..... 5 *Laboratory*.... 4 Mechanics . .... 2½ Shop Lect'res III, 1 *Machine-shop I*, 4 *Mech. Draw. II*, 4	Diff. Calculus.... 5 Physics I..... 5 *Laboratory*.... 4 Mechanics ..... 2½ Shop Lect'res III, 1 *Machine-shop I*, 4 *Mech. Draw. II*, 4	Diff. Calculus.. 5 Physics I..... 5 *Laboratory*.. 4 Mechanics ..... 2½ Art Lectures I.. 1 *Line'r Perspec.* 4 *Arch. Draw* ... 4	Medicine I..... 3 Surgery I..... 2 Anatomy III... 2½ *Labor. III*,..10 Rhetoric II .... 5 European Hist., 5
WINTER TERM.	Civics ..... 5 Crop Production, 5 *Grain Judg*... 2 Rhetoric II ..... 5 *Agri. Chemistry Laboratory*.... 6	European Hist... 5 Zoology ..... 5 *Laboratory* .... 4 Domestic Sci. II.. 2 *Laboratory*.... 4 German V..... 2½ *Music elective.*	Civics ..... 5 Bacteriology..... 2½ *Laboratory*.... 4 Physics III. .... 5 *Laboratory*.... 4 German V..... 2½	Integral Calc .... 5 Physics II..... 5 *Laboratory*.... 4 European Hist... 5 *Mech. Draw. III*, 4 *Machine-shop II*, 2	Integral Calc ... 5 Physics II..... 5 *Laboratory*.... 4 European Hist... 5 *Mech. Draw. III*, 4 *Machine-shop II*, 2	Integral Calc .. 5 Physics II..... 5 *Laboratory*.. 4 European Hist., 5 Art Lect. II.... 1 *Arch. Draw* ... 6	Medicine II .... 5 Surgery II..... 5 Gen. Path. I ... 3 Civics ..... 5 *Anatomy III Laboratory*..12
SPRING TERM.	American Hist... 5 Stock Feeding... 3 Agri. Chemistry.. 2 Veg.-gardening .. 5 Farm Mech. and Management... 5	Civics ..... 5 Home Decor'n ... 2½ Bacteriology..... 2½ *Laboratory*.... 4 Domest. Sci. III, 2 *Laboratory*.... 4 Home Nursing... 2½ German VI..... 2½ *Music elective.*	American Hist... 5 Zoology ..... 5 *Laboratory*.... 4 Physics IV..... 5 *Laboratory*.... 2 German VI..... 2½	Def. Integrals.... 2½ Valve Gears..... 2½ Civics .... 5 Rhetoric II ..... 5 Shop Lectures IV, 1 *Mach.-shop III*, 4 *Mech. Draw. IV*, 4	Diff. Equations.. 2½ Electricity..... 5 *Laboratory*.... 6 Civics ..... 5 Rhetoric II 5	Def. Integrals.. 2½ Civics ..... 5 Rhetoric II .... 5 Home Arch..... 2½ Art Lect. III... 1 *Arch. Draw*.... 4 *Modeling* 4	Medicine III... 5 Surgery III .... 5 Gen. Path. II.. 2 Stock Feed. III, 3 American Hist., 5 *Pharmacology Laboratory*.. 5

Music is optional throughout the course.

For outline of instruction, see page 49 *et seq.*

COURSES OF STUDY—Fourth Year.

	AGRICULTURE.	DOMESTIC SCIENCE.	GENERAL SCIENCE.	MECHANICAL ENGINEERING.	ELECTRICAL ENGINEERING.	ARCHITECTURE.	VETERINARY.
FALL TERM.	Physics III..... 5 *Laboratory*.... 4 Zoology ..... 5 *Laboratory*.... 4 Elective..... 5	American Hist... 5 English Lit. I... 5 Household Management..... 5 Elective..... 5	Logic..... 5 Geology ..... 5 Economics..... 5 Elective 5	American Hist... 5 Economics..... 5 Steam-boilers ... 2½ *Engi. Lab. I*..... 2 Graphic Statics.. 2½ Shop Lectures V, 1 *Mach.-shop IV*.. 2 *Mech. Draw. V*.. 4	American Hist... 5 Economics .... . 5 Direct-cur. Mach., 5 *Laboratory* ... 4 *Mech. Draw. IV*, 4 *Electrochemistry*, 2	American Hist., 5 Economics ..... 5 Heat'g and Pl., 2½ Graphic Statics, 2½ Art Lect. IV... 1 *Arch. Draw'g*.. 4 *Arch. Composition I*..... 4	Medicine IV.... 5 Meat Inspect'n, 5 Special Path... 2 *Laboratory*.. 4 Surgical Anat.. 5 Animal Nut'n.. 5
WINTER TERM.	Physics IV..... 5 *Laboratory*.... 2 Economics..... 5 Geology..... 5 Elective..... 5	English Lit. II... 5 Dietetics..... 2½ *Laboratory*.... 6 Psychology..... 5 Elective..... 5	English Lit. I.... 5 Plant Morph..... 5 *Laboratory*.... 4 Elective..... 5 *Industrial*..... 4	English Lit..... 5 Thermod'mics I.. 5 *Engi. Lab. II*... 4 Applied Mech. I.. 5 Shop Lectures VI, 1 *Mach.-shop V*.... 2 *Mech. Draw. VI*, 2	Direct-cur. Mach., 2½ Alt.-cur. Mach.... 2½ *Laboratory*.... 4 English Lit ..... 5 Applied Mech. I.. 5 *Engi. Lab. IV*.. 4 *Mach.-shop III*.. 2	English Lit.... 5 Geology ..... 5 Applied Mech. I, 5 *Art Lect. V*.... 1 *Arch. Draw*.... 4 *Arch. Composition II* 4	Medicine V..... 4 Surgery IV..... 5 Obstetrics I.... 3 Economics..... 5 *Sp. Bact. Lab.* 6
SPRING TERM.	English Lit..... 5 Animal Breed'g.. 5 Elective..... 5 Thesis..... 5	Thera. Cookery.. 2 *Laboratory*.... 4 Economics..... 5 Elective..... 5 Thesis..... 5	English Lit. II... 5 Psychology..... 5 Elective..... 5 Thesis..... 5	Applied Mech. II, 2½ Thermod'mics II, 5 Hydraulics..... 2½ Shop Lect. VII... 1 *Mech. Draw. VII*, 4 Thesis..... 5 *Engi. Lab. III*.. 2	Alt.-cur. Mach.... 5 *Laboratory*.... 4 Hydraulics. ..... 2½ Power Stations.. 2½ *Dynamo Des'n*, 4 Thesis..... 5	App'd Mech. II, 5 *Specifications*.. 2½ *Estimates and Contracts* .... 2½ Thesis..... 5 *Arch. Composition III*..... 6 Roofs and Tr... 5	Medicine VI.... 5 Obstetrics II... 2 Operative Sur., 5 Animal Breed'g, 5 English Lit..... 5 Thesis..... 5

Music is optional throughout the course.

For outline of instruction, see page 49 *et seq.*

Agriculture Course.

This is an age of specialists, yet the specialist is far better equipped for his life-work if he is well grounded in the fundamental branches of knowledge. The College is better equipped than ever before, in the special lines of agriculture, horticulture, and animal husbandry, for giving the student thorough preparation and training in these lines. The sciences which are related to agriculture are not slighted, and all of the essential fundamental studies are given.

The young men who take the agriculture course will not only be well prepared successfully to carry on various lines of farming for themselves, but they will be competent to act as foreman, and, after some experience, as managers and superintendents of large farms or other agricultural interests. They will also be prepared to take positions in our agricultural colleges and experiment stations as instructors and assistants. More than this, the graduate from the agriculture course, whatever calling he may choose or wherever he may make his home, will be a strong and influential citizen as well as a skilful producer, because, while the studies of the agriculture course are primarily practical, emphasizing the business side of life, yet enough "culture" studies are offered to give the student a well-balanced and well-rounded education.

The time has passed, my young farmer friend, when an uneducated and unskilled man can become a successful farmer and a man among men. It is not so easy to make a good living at farming to-day as it was forty or even twenty years ago. The soil is poorer; competition is greater. There are many educated, hustling men engaged in the various lines of farming to-day, and if you want successfully to compete with them you must be educated, too. You must understand the soil and the great principles of cultivation, aeration, and soil-moisture conservation. You must know the science of plant growth and propagation; you must know the chemistry of the plant and of the soil. You must learn the principles of animal nutrition and balanced rations in stock-feeding. You must study the animal and be practiced in stock judging, in order to select your breeding stock. You must know a thousand things about agriculture which you do not know now, if you hope successfully to compete with those who have knowledge and training in these things.

The motto of the Agricultural College is *practice with science.* This does not mean, however, that the agriculture course student is put to work on the farm. The agriculture course is a course of study, not manual labor. Some manual labor is required as practice work in the field and laboratory. The student is taught to handle tools in carpentry and blacksmithing; he is given some practice in handling stock, grafting, tree-planting, and general farm management. He is not sent into the fields to plow, harrow, or cultivate, but he has an opportunity to observe the best methods of farm practice and become acquainted with the great principles of agriculture which apply everywhere and upon which crop production and stock-breeding and -raising depend.

Every young farmer in the state of Kansas should take the agriculture course. It does not matter so much how long a man lives, as how much he lives, and one can live so much more and accomplish so much more after spending four years in College, that the time spent is never missed. Every young man can find means to carry him through College. "Where there is a will there is a way."

Agriculture Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	91
English Classics	5	79
Botany II	5	59
Field-work	2	59
Free-hand Drawing	2	56
Woodwork I	4	93
Drill	4	99

WINTER TERM:

Geometry II	5	91
Advanced Composition	5	79
Agriculture	5	49
Elementary Psychology	1	107
Woodwork II	3	93
Object and Geom. Drawing,	4	56
Drill	4	99

SPRING TERM:

Algebra IV	5	91
Rhetoric I	5	79
Physics	5	111
Laboratory	2	111
Blacksmithing I	4	93
Elementary Projection	2	56
Drill	4	99

Second Year.

FALL TERM:

Chemistry I	5	63
Laboratory I	2	67
Dairying	2½	69
Laboratory	6	69
Trigonometry	5	91
Surveying	2	91
Public Speaking I	2½	119
Drill	4	99

WINTER TERM:

Chemistry II	5	63
Laboratory II	2	67
Breeds of Stock	2½	52
Stock Judging	4	52
Physiology	5	125
Laboratory	2	125
Public Speaking II	2½	119
Drill	4	99

SPRING TERM:

Chemistry III	2½	65
Laboratory III	7½	67
Horticulture	5	87
Laboratory	4	87
Entomology	5	81
Laboratory	2	81
Drill	4	99

Third Year.

FALL TERM:

European History	5	85
Veterinary Science	5	121
Animal Nutrition	5	65
Bacteriology	2½	126
Laboratory	4	127
Horticulture Laboratory	2	87

WINTER TERM:

Civics	5	85
Crop Production	5	49
Grain Judging	2	49
Rhetoric II	5	80
Agricultural Chemistry Laboratory	6	67

SPRING TERM:

American History	5	85
Stock Feeding	3	54
Agricultural Chemistry	2	67
Vegetable-gardening	5	87
Farm Mechanics and Management	5	51

Fourth Year.

FALL TERM:

Physics III	5	112
Laboratory	4	112
Zoology	5	81
Laboratory	4	81
Elective	5	30

WINTER TERM:

Physics IV	5	112
Laboratory	2	112
Economics	5	76
Geology	5	82
Elective	5	30

SPRING TERM:

English Literature	5	80
Animal Breeding	5	34
Elective	5	30
Thesis	5	33

Domestic Science Course.

The aim of the domestic science course is both specific and general. Technically it is an application of the science of bacteriology to the study of home sanitation and hygiene, of physiology and chemistry to the composition of foods and their effect, of physics as applied to heating and lighting. These sciences, necessarily, therefore, underlie the successful and intelligent conduct of the home, whether it be large or small, and must be included in any well-arranged course of domestic science. In the kitchen laboratory a standard system of measurement is taught, and constant emphasis is placed upon neatness, accuracy and economy in the handling of the material and utensils. The instruction in domestic art includes all the various kinds of hand sewing, the making of plain garments, and a complete system of dressmaking. Thus, while the course is based upon studies of a thoroughly scientific nature, the laboratory and industrial features characteristic of the College are made highly practical and are continued throughout the course.

While the domestic science course emphasizes, primarily, the practical and material side of life, it does not stop here. To the end that well-rounded culture may be secured, studies are offered in this course in English, history, economics, psychology, and public speaking. The young women are constantly reminded that life is not all drudgery; that technical knowledge and scientific skill, even, fail to include the full meaning of education in its highest sense. They are taught that any training that fails to develop, harmoniously, body, mind and spirit is inadequate and incomplete. They are brought face to face with ideals as well as with actualities; and are made to see that, while skilful labor is the crowning dignity of life, grace, refinement and self-poise are the highest ingredients of true service.

As the truly useful woman must be both cultured and refined, one-third of the time of this course is given to history, art, literature, and economics, and about one-third to the sciences.

The elective during the fourth year gives considerable opportunity to specialize in some chosen line.

Domestic Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	91
English Classics	5	79
Botany II	5	59
Field-work	2	59
Free-hand Drawing	2	56
Sewing I	4	72
Physical Training	4	109

WINTER TERM:

Geometry II	5	91
Advanced Composition	5	79
Cooking	5	73
Elementary Psychology	1	107
Sewing II	3	72
Object and Geom. Drawing,	4	56
Physical Training	4	109

SPRING TERM:

Algebra IV	5	91
Rhetoric I	5	79
Physics	5	111
Laboratory	2	111
Sewing III	4	72
Elementary Projection	2	56
Physical Training	4	109

Second Year.

FALL TERM:

Chemistry I	5	63
Laboratory I	2	67
Entomology	5	81
Laboratory	2	81
German I	5	83
Public Speaking I	2½	119
Physical Training or *Music,*	4	109

WINTER TERM:

Chemistry II	5	63
Laboratory II	2	67
Horticulture	5	87
Floriculture	2	87
German II	5	83
Dressmaking and Fabrics,	6	72
Physical Training or *Music,*	4	109

SPRING TERM:

Chemistry III	2½	65
Laboratory III	7½	67
Physiology	5	125
Laboratory	2	125
Public Speaking II	2½	119
German III	5	83
Physical Training or *Music,*	4	109

Third Year.

FALL TERM:

Rhetoric II	5	80
Human Nutrition	5	65
Domestic Science I	2	73
Laboratory	4	73
German IV	2½	84
Color and Design	4	57
Laundering	2	73
Music elective	—	101

WINTER TERM:

European History	5	85
Domestic Science II	2	73
Laboratory	4	74
Zoology	5	81
Laboratory	4	81
German V	2½	84
Music elective	—	101

SPRING TERM:

Civics	5	85
Home Decoration	2½	57
Bacteriology	2½	126
Laboratory	4	127
Domestic Science III	2	75
Laboratory	4	75
Home Nursing	2½	73
German VI	2½	84
Music elective	—	101

Fourth Year.

FALL TERM:

American History	5	85
English Literature I	5	80
Household Management	5	75
Elective	5	30

WINTER TERM:

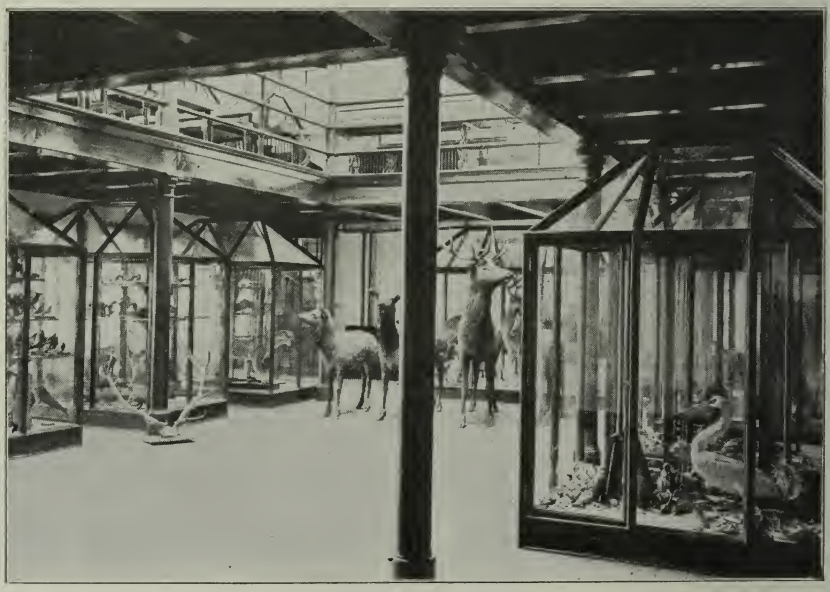
English Literature II	5	80
Dietetics	2½	75
Laboratory	6	75
Psychology	5	107
Elective	5	30

SPRING TERM:

Therapeutic Cookery	2	75
Laboratory	4	75
Economics	5	76
Elective	5	30
Thesis	5	—

General Science Course.

This course is designed to meet the wants of those who seek to obtain a sound and liberal education through the study of the mathematical, physical and natural sciences, English language, and history. It is well adapted to the student who has not yet decided upon his life-work, or who wishes to make this a foundation for further study. It is based on the principle of "a general knowledge of all things before a special knowledge of a few." It will be well worth one's time to take this course before beginning the work of a technical or professional course. Laboratory and industrial work are a feature of this course, as of all others. The electives continuing through the fourth year give opportunity for some special lines, as follows: Young men may take analytical geometry, differential and integral calculus with the engineering students, by delaying American history till the spring term, fourth year, and young women may take the three terms in domestic science with the third-year women of the domestic science course. Other electives are announced on page 30. In each case, the electives for the three terms are expected to be in the same line as nearly as possible.



CORNER OF MUSEUM.

General Science Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	91
English Classics	5	79
Botany II	5	59
Field-work	2	59
Free-hand Drawing	2	56
Woodwork I or *Sewing I*	4	93
Drill or *Physical Training*,	4	99

WINTER TERM:

Geometry II	5	91
Advanced Composition	5	79
Cooking or Agriculture	5	73
Elementary Psychology	1	107
Woodwork II or *Sewing II*,	3	93
Object and Geometrical Drawing	4	56
Drill or *Physical Training*,	4	99

SPRING TERM:

Algebra IV	5	91
Rhetoric I	5	79
Physics	5	111
Laboratory	2	111
Blacksmithing I or *Sewing III*	4	93
Elementary Projection	2	56
Drill or *Physical Training*,	4	99

Second Year.

FALL TERM:

Chemistry I	5	63
Laboratory I	2	67
Trigonometry	5	91
Surveying	2	91
German I	5	83
Industrial	4	24
Drill	4	99
Physical Training or *Music*	4	109

WINTER TERM:

Chemistry II	5	63
Laboratory II	2	67
Entomology	5	81
Laboratory	2	81
German II	5	83
Public Speaking I	2½	119
Projection Drawing	2	56
Drill	4	99
Physical Training or *Music*	4	109

SPRING TERM:

Chemistry III	2½	65
Laboratory III	7½	67
Physiology	5	125
Laboratory	2	125
Public Speaking II	2½	119
German III	5	83
Drill	4	99
Physical Training or *Music*	4	109

Third Year.

FALL TERM:

European History	5	85
Horticulture	5	87
Rhetoric II	5	80
German IV	2½	84
Linear Perspective	4	57
Industrial	2	24

WINTER TERM:

Civics	5	85
Bacteriology	2½	126
Laboratory	4	127
Physics III	5	112
Laboratory	4	112
German V	2½	84

SPRING TERM:

American History	5	85
Zoology	5	81
Laboratory	4	81
Physics IV	5	112
Laboratory	2	112
German VI	2½	84

Fourth Year.

FALL TERM:

Logic	5	107
Geology	5	82
Economics	5	76
Elective	5	30

WINTER TERM:

English Literature I	5	80
Plant Morphology	5	59
Laboratory	4	60
Elective	5	30
Industrial	4	24

SPRING TERM:

English Literature II	5	80
Psychology	5	107
Elective	5	30
Thesis	5	—

Mechanical Engineering Course.

This course offers four years' training in mechanical engineering subjects, and its object is to fit young men for responsible positions in that profession. It prepares for the successful management of machinery and manufacturing establishments, the designing, building and erection of machinery, superintendence of construction, etc. The course includes instruction by text-book, lecture, laboratory, and workshop practice, and is especially based on mathematics, pure and applied mechanics, physics, chemistry, machine design, structural design, and steam engineering.

The course of study has been laid out with the aim of securing a judicious mixture of theory and practice, such as will not only give the student the technical skill required for engineering operations, but also a broad grasp of the fundamental principles of his profession. The advantages of combining a practical application of principles with theoretical instruction at the time these principles are being impressed by classroom work is well known. The shop work, being purely educational in its character, is so arranged that each student can make as rapid advancement as possible. Instruction is given by skilled workmen, and the work carried on is of a practical character, being, in fact, the building of lathes, engines, drills and machinery for the market and the department. In all shop practice the students work from blue-prints, thus learning to read drawings readily and supplementing the work of the drawing department.

Based upon the fundamental principle that laboratory and shop work, combined with technical training, constitute one of the most important features of engineering education, the course on the opposite page is offered.

COLLEGE CAMPUS.

Mechanical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	91
English Classics	5	79
Botany II	5	59
Field-work	2	59
Free-hand Drawing	2	56
Woodwork I	4	93
Drill	4	99

WINTER TERM:

Geometry II	5	91
Advanced Composition	5	79
Agriculture	5	49
Elementary Psychology	1	107
Woodwork II	3	93
Object and Geom. Drawing,	4	56
Drill	4	99

SPRING TERM:

Algebra IV	5	91
Rhetoric I	5	79
Physics	5	111
Laboratory	2	111
Blacksmithing I	4	93
Elementary Projection	2	56
Drill	4	99

Second Year.

FALL TERM:

Chemistry I	5	63
Laboratory I	2	67
Trigonometry	5	91
Surveying	2	91
Shop Lectures I	1	93
German I	5	83
Projection Drawing	2	56
Blacksmithing II	2	93
Drill	4	99

WINTER TERM:

Chemistry IV	2½	65
Laboratory IV	4	67
Kinematics	5	93
German II	5	83
Descriptive Geometry	4	56
Public Speaking I	2½	119
Foundry	2	93
Drill	4	99

SPRING TERM:

Chemistry V	2½	65
Laboratory V	4	67
German III	5	83
Analytical Geometry	5	91
Public Speaking II	2½	119
Shop Lectures II	1	93
Mechanical Drawing I	2	93
Pattern-making	2	95
Drill	4	99

Third Year.

FALL TERM:

Differential Calculus	5	91
Physics I	5	111
Laboratory	4	111
Mechanics	2½	95
Shop Lectures III	1	95
Mechanical Drawing II	4	95
Machine-shop I	4	95

WINTER TERM:

Integral Calculus	5	91
Physics II	5	111
Laboratory	4	112
European History	5	85
Mechanical Drawing III	4	95
Machine-shop II	2	95

SPRING TERM:

Definite Integrals	2½	91
Valve Gears	2½	95
Civics	5	85
Rhetoric II	5	80
Shop Lectures IV	1	95
Mechanical Drawing IV	4	95
Machine-shop III	4	95

Fourth Year.

FALL TERM:

American History	5	85
Economics	5	76
Steam-boilers	2½	95
Graphic Statics	2½	95
Shop Lectures V	1	96
Engineering Laboratory I	2	96
Mechanical Drawing V	4	96
Machine-shop IV	2	96

WINTER TERM:

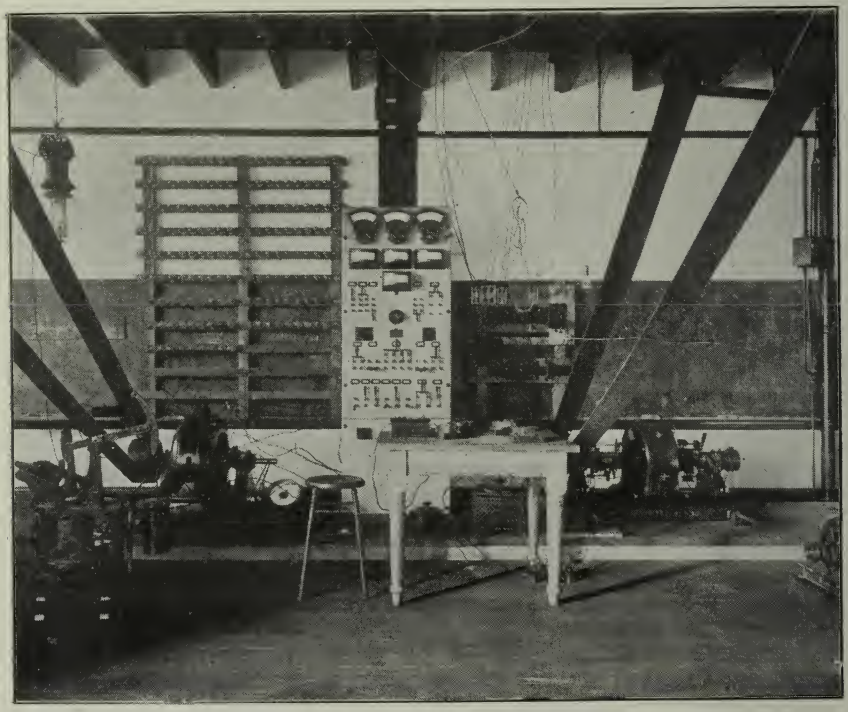
English Literature	5	80
Thermodynamics I	5	96
Applied Mechanics I	5	96
Shop Lectures VI	1	96
Engineering Laboratory II,	4	96
Mechanical Drawing VI	2	96
Machine-shop V	2	96

SPRING TERM:

Applied Mechanics II	2½	96
Thermodynamics II	5	96
Hydraulics	2½	97
Shop Lectures VII	1	97
Thesis	5	97
Mechanical Drawing VII	4	97
Engin'ring Laboratory III,	2	97

Electrical Engineering Course.

This course is arranged to supply the demand for men who have a practical knowledge of electricity, as well as thorough knowledge of the principles and laws governing the force and phenomena with which they have to deal. The applications of electricity are broadening out so rapidly by discovery and invention and by increased commercial application, that new facts are to be met with almost daily. To meet these demands, the student should be well grounded in all the branches underlying his profession. This course is therefore made strong in mathematical and physical sciences. A well-equipped electrical engineer should also be a mechanical engineer, and must have some training in the principles of steam and hydraulic engineering as well as heat, plumbing, etc. Drawing, machine design, and mechanics of machinery, together with shop practice, occupy a considerable portion of the time of the student. Some general-culture studies are offered in history and economics, public speaking, and English. It is believed that this course will give a broad general training, with sufficient technical knowledge to meet the needs of a practical engineer. For the first two years this course is identical with the mechanical engineering course.



ELECTRICAL ENGINEERING LABORATORY.

Electrical Engineering Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	91
English Classics	5	79
Botany II	5	59
Field-work	2	59
Free-hand Drawing	2	56
Woodwork I	4	93
Drill	4	99

WINTER TERM:

Geometry II	5	91
Advanced Composition	5	79
Agriculture	5	49
Elementary Psychology	1	107
Woodwork II	3	93
Object and Geometrical Drawing	4	56
Drill	4	99

SPRING TERM:

Algebra IV	5	91
Rhetoric I	5	79
Physics	5	111
Laboratory	2	111
Blacksmithing I	4	93
Elementary Projection	2	56
Drill	4	99

Second Year.

FALL TERM:

Chemistry I	5	63
Laboratory I	2	67
Trigonometry	5	91
Surveying	2	91
Shop Lectures I	1	93
German I	5	83
Projection Drawing	2	56
Blacksmithing II	2	93
Drill	4	99

WINTER TERM:

Chemistry IV	2½	65
Laboratory IV	4	67
Kinematics	5	93
German II	5	83
Descriptive Geometry	4	56
Public Speaking I	2½	119
Foundry	2	93
Drill	4	99

SPRING TERM:

Chemistry V	2½	65
Laboratory V	4	67
German III	5	83
Analytical Geometry	5	91
Public Speaking II	2½	119
Shop Lectures II	1	93
Mechanical Drawing I	2	93
Pattern-making	2	95
Drill	4	99

Third Year.

FALL TERM:

Differential Calculus	5	91
Physics I	5	111
Laboratory	4	111
Mechanics	2½	95
Shop Lectures III	1	95
Machine-shop I	4	95
Mechanical Drawing II	4	95

WINTER TERM:

Integral Calculus	5	91
Physics II	5	111
Laboratory	4	112
European History	5	85
Mechanical Drawing III	4	95
Machine-shop II	2	95

SPRING TERM:

Differential Equations	2½	91
Electricity	5	113
Laboratory	6	113
Civics	5	85
Rhetoric II	5	80

Fourth Year.

FALL TERM:

American History	5	85
Economics	5	76
Direct-current Machines	5	113
Laboratory	4	114
Mechanical Drawing IV	4	95
Electrochemistry	2	114

WINTER TERM:

Direct-current Machines	2½	113
Alternating-current Machines	2½	114
Laboratory	4	114
English Literature	5	80
Applied Mechanics I	5	96
Engineering Laborat'y IV,	4	96
Machine-shop IIIa	2	95

SPRING TERM:

Alternating-current Machines	5	114
Laboratory	41	114
Hydraulics	2½	97
Power Stations	2½	114
Dynamo Design	4	114
Thesis	5	—

Architecture Course.

This four-year course is designed to meet the rapidly growing educational need of the building profession.

The freshman and sophomore years are identical with those of the mechanical and electrical engineering courses, and comprise, as will be seen in other parts of the catalogue, vigorous work in mathematics, drawing, surveying, physics, kinematics, English and German, supplemented by practice in the carpenter shop, the machine-shop, and the foundry. The junior and senior years are given to advanced work in the lines named, supplemented by theoretical and practical work in perspective and rendering, building construction, modeling, specifications and estimates, architectural drawing, architectural composition, etc. The department of architecture and drawing is well equipped with models, casts, samples of building materials, blueprints and lithographs of modern structures, photographs of historic buildings, etc., and is in condition to offer unusual opportunities to Western students of architectural art.

BLACKSMITH SHOP.

Architecture Course.

First column of figures indicates hours per week.
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First Year.

FALL TERM:

Geometry I	5	91
English Classics	5	79
Botany II	5	69
Field-work	2	59
Free-hand Drawing	2	56
Woodwork I	4	93
Military Drill	4	99

WINTER TERM:

Geometry II	5	91
Advanced Composition	5	79
Agriculture	5	49
Elementary Psychology	1	107
Woodwork II	3	93
Object and Geom. Drawing,	4	56
Military Drill	4	99

SPRING TERM:

Algebra IV	5	91
Rhetoric I	5	79
Elementary Physics	5	111
Laboratory	2	111
Blacksmithing I	4	93
Elementary Projection	2	56
Military Drill	4	99

Second Year.

FALL TERM:

Chemistry I	5	63
Laboratory I	2	67
Trigonometry	5	91
Surveying	2	91
Shop Lectures I	1	93
German I	5	83
Projection Drawing	2	56
Blacksmithing II	2	93
Military Drill	4	99

WINTER TERM:

Chemistry IV	2½	65
Laboratory IV	4	67
Kinematics	5	93
German II	5	83
Descriptive Geometry	4	56
Public Speaking I	2½	119
Foundry	2	93
Military Drill	4	99

SPRING TERM:

Chemistry V	2½	65
Laboratory V	4	67
German III	5	83
Analytical Geometry	5	91
Public Speaking II	2½	119
Shop Lectures II	1	93
Mechanical Drawing I	2	93
Pattern-making	2	95
Military Drill	4	99

Third Year.

FALL TERM:

Differential Calculus	5	91
Physics I	5	111
Laboratory	4	111
Mechanics	2½	95
Art Lectures I	1	57
Linear Perspective	4	57
Architectural Drawing I	4	57

WINTER TERM:

Integral Calculus	5	91
Physics II	5	111
Laboratory	4	112
European History	5	85
Art Lectures II	1	57
Architectural Drawing II	6	57

SPRING TERM:

Definite Integrals	2½	91
Civics	5	85
Rhetoric II	5	79
Home Architecture	2½	56
Art Lectures III	1	57
Architectural Drawing III,	4	57
Modeling	4	58

Fourth Year.

FALL TERM:

American History	5	85
Economics	5	76
Heating and Plumbing	2½	58
Graphic Statics	2½	95
Art Lectures IV	1	57
Architectural Drawing IV,	4	57
Architectural Compos'n I	4	58

WINTER TERM:

English Literature	5	79
Geology	5	82
Applied Mechanics I	5	96
Art Lectures V	1	57
Architectural Drawing V	4	57
Architectural Compos'n II,	4	58

SPRING TERM:

Applied Mechanics II	5	96
Roofs and Trusses	5	58
Specifications	2½	58
Estimates and Contracts	2½	58
Thesis	5	—
Architectural Compos'n III,	6	58

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Veterinary Science Course.

The increased number and value of the live stock of Kansas have created a demand in the last few years for first-class veterinarians far in excess of the supply. The breeder of highly bred stock, the large feeder, the farmer, all combine and call for more and better qualified veterinary surgeons; the practicing veterinarians during their busy season cannot do all the work called upon and are asking for more help. The breeder, feeder and farmer all recognize the fact that there is a difference between the "horse doctor" and veterinarian, and will trust their sick animals in the hands of the former only when the latter is not available. Thus, in the state of Kansas, has the demand for such qualified men been so great that the Board of Regents could no longer resist the pressure, and have inaugurated a full four-year course of study in veterinary science, and fitted specially to the demand of the times, equal in broadness and thoroughness to the best veterinary schools in existence. The wisdom of such a course has already been demonstrated in the work done and the qualification of the students at the end of their first year's work.

The work is arranged to give instruction along those lines which will insure the graduation of veterinarians thoroughly qualified in every respect. The course, extending over four years, gives the student ample opportunity to obtain a thorough practical education in veterinary science. It is based upon the principle of giving a thorough foundation before specializing; it thus insures the graduate being fully qualified to enter a wide field of usefulness. It is the aim of the course to provide a thorough education in all branches pertaining to veterinary science, at the same time instructing the student in his duties as an American citizen. The demand for veterinarians all the world over is constantly increasing. To meet this demand this course is made strong in the branches underlying the profession: Anatomy, physiology, pathology, surgery, medicine, materia medica, and bacteriology. Throughout the entire course each student receives personal instruction in the practical and theoretical details of the profession.

Upon the completion of the course the student receives the College diploma with the professional degree of doctor of veterinary medicine (D. V. M.), which will entitle the holder to recognition at examinations for any position in the United States: The United States cavalry, where there is a demand for a limited number of veterinarians; the Bureau of Animal Industry of the United States Department of Agriculture, where many veterinarians are employed as inspectors in slaughter-houses and on quarantine work in contagious diseases. Some state boards of health employ veterinarians, as do also state live-stock sanitary commissions. Some states have a state veterinarian with many assistants. There has sprung up lately a demand from agricultural colleges for veterinary instructors and veterinarians in experiment stations; purely veterinary colleges also are demanding better qualified men as teachers.

The call for up-to-date practitioners has increased greatly the last few years, and a thoroughly qualified practitioner can find scores of locations where he can at once pay his expenses and soon work up an enviable practice—one which, financially, far exceeds that of his brother M. D., who may have been located for years. Socially, the standard has been materially raised, and the veterinarian of to-day is held at his true worth.

The course as presented on the opposite page embodies the training necessary to fill the above requirements.

Veterinary Course.

First column of figures indicates hours per week.
Second column shows page in this catalogue where full description may be found.

First Year.

FALL TERM:

Geometry I	5	91
English Classics	5	79
Botany II	5	59
Field-work	2	59
Free-hand Drawing	2	56
Woodwork I	4	93
Military Drill	4	99

WINTER TERM:

Geometry II	5	91
Advanced Composition	5	79
Agriculture	5	49
Elementary Psychology	1	107
Woodwork II	3	93
Object and Geom. Drawing,	4	56
Military Drill	4	99

SPRING TERM:

Algebra IV	5	91
Rhetoric I	5	79
Physics	5	111
Laboratory	2	111
Blacksmithing I	4	93
Elementary Projection	2	56
Military Drill	4	99

Second Year.

FALL TERM:

Anatomy I	2½	121
Materia Medica I	2½	123
Dairying	2½	69
Laboratory	3	69
Chemistry I	5	63
Laboratory I	2	67
Public Speaking I	2½	119
Histology Laboratory	10	123
Military Drill	4	99

WINTER TERM:

Physiology	5	125
Materia Medica II	2	125
Chemistry II	5	63
Laboratory II	2	67
Breeds of Stock	2½	52
Public Speaking II	2½	119
Anatomy I Laboratory	10	125
Military Drill	4	99

SPRING TERM:

Comparative Physiology	5	125
Anatomy II	2½	126
Laboratory II	6	126
Materia Medica III	2½	126
Bacteriology	2½	126
Laboratory	4	127
Chemistry III	2½	65
Laboratory III	4	67
Military Drill	4	99

Third Year.

FALL TERM:

Medicine I	3	127
Surgery I	2	129
Anatomy III	2½	129
Laboratory III	10	129
Rhetoric II	5	80
European History	5	85

WINTER TERM:

Medicine II	5	129
Surgery II	5	129
General Pathology I	3	130
Civics	5	85
Anatomy III Laboratory	12	130

SPRING TERM:

Medicine III	5	130
Surgery III	5	130
General Pathology II	2	130
Stock Feeding III	3	59
American History	5	85
Pharmacology Laboratory,	5	130

Fourth Year.

FALL TERM:

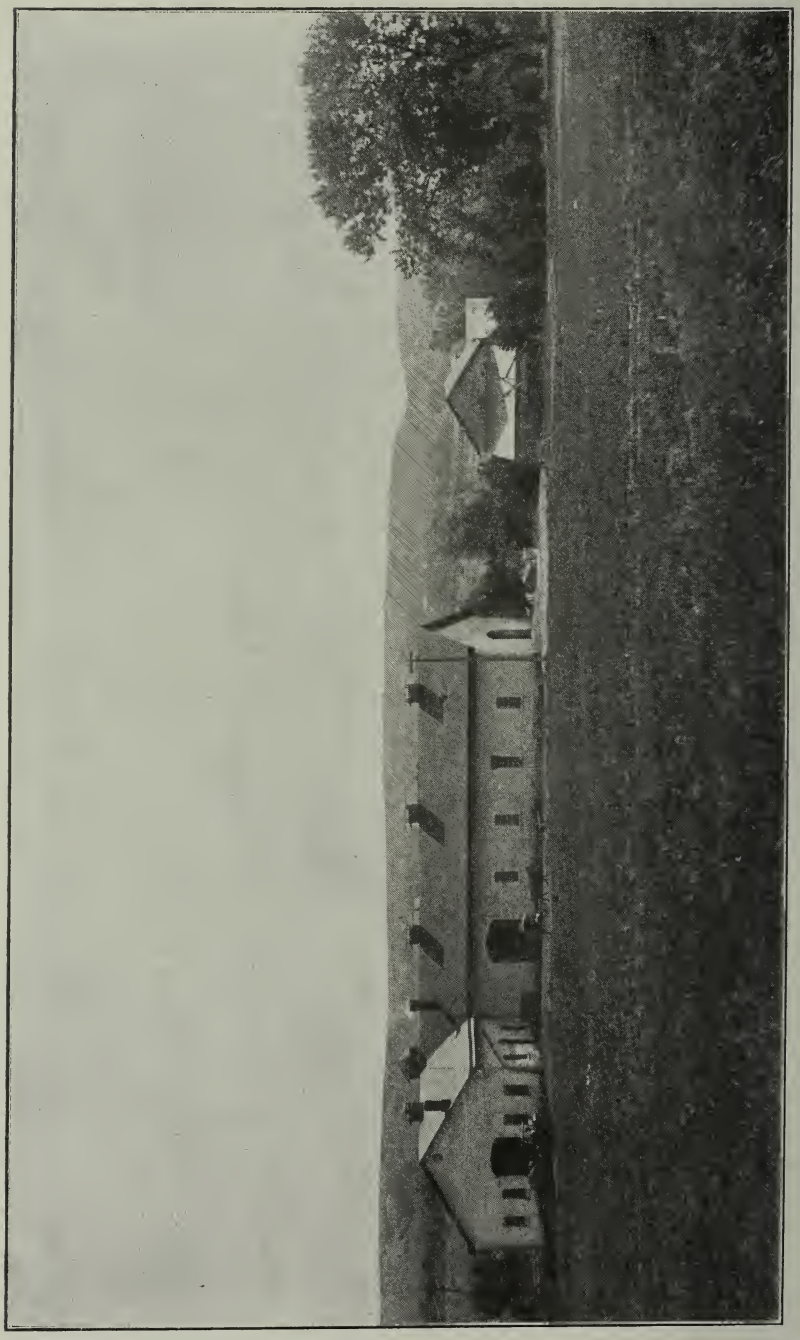
Medicine IV	5	130
Meat Inspection	5	130
Special Pathology	2	130
Laboratory	4	131
Surgical Anatomy	5	131
Animal Nutrition	5	65

WINTER TERM:

Medicine V	4	131
Surgery IV	5	131
Obstetrics I	3	132
Economics	5	76
Special Bacteriology Laboratory	6	132

SPRING TERM:

Medicine VI	5	132
Obstetrics II	2	132
Operative Surgery	5	132
Animal Breeding	5	54
English Literature	5	80
Thesis	5	—



BARN.

Outline of Instruction.

Agriculture.

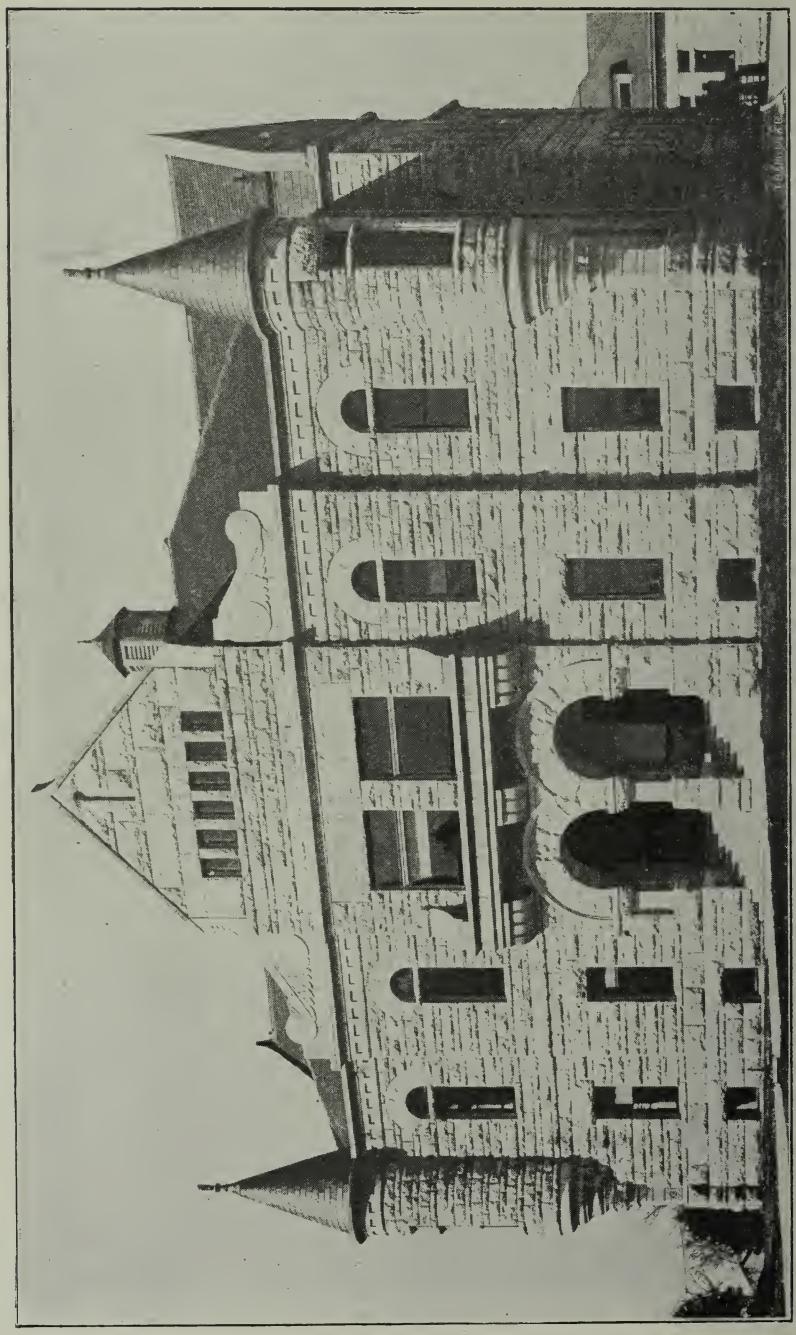
Agriculture, in its restricted sense, includes four general lines of study: Soils, crops, farm mechanics, and farm management. In the published course of study, farm mechanics and farm management are given one-half term each. The more advanced work in soils and farm mechanics is included in soil physics No. 5, elective, and in farm mechanics II, elective. The course requires a full term's work in crop production and grain judging, while, for those who wish to specialize in this line, advanced work in this subject is offered as an elective in the fourth year. Agriculture No. 1 takes up the elementary study of soils and crop production and serves as an introduction to the several branches of agriculture, animal husbandry, and dairying.

It is proposed to make the agricultural studies thoroughly practical. Agriculture is a business. It is not truly a science, but it depends upon science, and to understand the "principles of agriculture" requires a knowledge of many sciences. Physics, botany, chemistry, geology and mathematics teach theory and science, and the studies in agriculture will assist the student to make the application and put the theory and science into practice on the farm.

1. **Agriculture.** First year, winter term. An elementary study of the soil—its formation, texture, plant-food, moisture, tillage, and fertility; the plant—its relation to the soil and climate, its propagation, growth, and cultivation; the kinds of crops and their culture; the animal—its life, feeding, breeding, and management. Text-book, Bailey's Principles of Agriculture.

2. **Crop Production.** Third year, winter term. A study of farm crops as to the preparation of the seed-bed, planting, cultivating, harvesting, root systems, maintenance of soil fertility, rotation of crops, manures and fertilizers, noxious weeds, injurious insects and diseases, and their remedies. Each of the staple crops will be taken up in order, its history, characteristics, methods of culture, uses, etc., noted. Seed selection and the storing, feeding and marketing of crops will also receive attention. Crops will be studied in classes as to their special purposes or uses, as hay, forage, silage, pasture, soiling, green manure, and cover-crops. New crops will be investigated. All the different crops are grown on the farm, so that the students may see them, or at least see samples in the classroom, and thus become familiar with their characters and methods of culture and handling. Lectures and text-book.

Grain Judging is supplementary to the classroom work in crop production. This will consist mainly of work in the judging-room, in the scoring of corn and the common cereals according to inspectors' and buyers' standards, or according to recognized standards of perfection. A special study will be made of corn in the selection of seed ears. It is surprising how few



AGRICULTURAL HALL.

people can pick out a good ear of corn before they are carefully instructed and trained in the vital points, both as to desirable qualities and defects. It is just as important to select and grow a pure and perfect type of corn or wheat as it is to select a well-formed hog or perfect type of dairy animal for breeding purposes. A higher per cent. of protein, greater productiveness, and other valuable qualities, which may be bred into corn by careful and intelligent selection, should greatly increase the value of this crop to the farmer.

3. **Farm Mechanics and Management.** Third year, spring term. Includes the study of the following subjects: Selection of a farm, as to location, soil, climate, etc.; relation of farming to other occupations; the farm equipment; different systems of farming; field and crop management; keeping farm accounts; necessity, method and kind of accounts. Practice work is required of each student, in which he shall carefully prepare records of the farm operations and business transactions for one year on his own farm or that of some successful farmer. Questions of farm economy are carefully studied, such as the care of farm buildings and works, management and care of stock, fencing, ditching, etc. Some study will be made of rural law relating to property, deeds, and conveyances; water rights, highways, legal fences, contracts, liabilities of employer and employee; notes, mortgages, bills of sale, etc. Farm management is meant not only to train men so that they may successfully apply business methods in carrying on their own farms, but to equip them for the superintending and management of large farms. This College, as well as other agricultural colleges, has many demands for men "who are properly trained in the management of large agricultural interests," and it is the aim of this course to develop men for this work. Text-book, Robert's Farmers' Business Handbook.

ELECTIVES.

4. **Soil Physics.** Fourth year, fall term. A study of soil formation and mechanical composition, including a special study of the physical problems of the soil as regards texture, tillage, movements of soil water, soil-moisture conservation, aeration of the soil, draining and warming of the soil. A study of the implements of tillage as to their purpose and use.

Laboratory.—Will consist largely of the demonstration and application of the principles of soil physics taught in the classroom, both by work in the laboratory and in the field. The students will be given practice work in determining soil moisture, in cultivation methods, and in mechanical analysis of soils. Text-book, King's Physics of Agriculture.

5. **Farm Mechanics II.** Fourth year, winter term. This will be a continuation of the work begun in the third year. The special subject will be farm machinery, its invention, history, and development; a study of the principles of construction and operation, with comparison of the different makes of machines of the different kinds and classes, according to their adaptation for special conditions and uses. As time permits, the work in other lines of farm mechanics will be continued, especially as related to the construction, ventilation and drainage of farm buildings, and the making and maintaining of roads. The work in the laboratory will consist largely of the demonstration and application of the principles taught in the classroom, including tests of the strength of timbers of different kinds and di-

mensions, the use of the dynamometer in testing the draft of wagons, etc., and the illustration of draft principles as related to the size and weight of the horse and arrangement of the harness, hitch, etc. Each student will be given some work in the taking down and putting up of farm machines, in order that he may learn their parts and construction.

6. **Crop Production II.** Fourth year, spring term. This course includes a study of the following: Standard crops, as to their origin, development, and special adaptation to soil, climate, etc.; investigations of new crops; the harvesting, thrashing, storing and marketing of crops; the products manufactured from each, and their uses; plant improvement by selection, cross-fertilization, and by special culture and fertilization of the soil; practical methods of plant-breeding which may be undertaken by the farmer; plans for breeding fields; methods of taking and preserving breeding records; storage, maturity, and other factors, as affecting germination and vitality of seeds, etc.

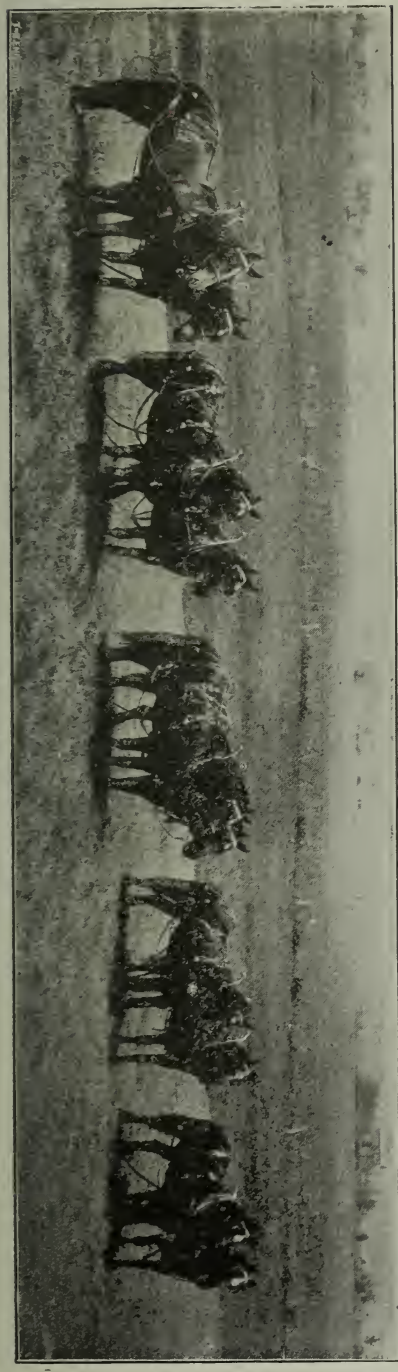
A study will also be made of the organization, lines of work and the more important results of experiments by the state experiment stations and by the United States Department of Agriculture. The important principles of experimental work will be studied, and each student will be required to plan and conduct, under the direction of the instructor, some experiment along agricultural lines, and to prepare a written discussion of the subject, giving the results of the experiment. The experiment may include any line of work in charge of the agronomy department, such as studies in germination and purity of seeds, market conditions of grain, culture methods for different crops, effects of various methods of cultivation on temperature and moisture of the soil, etc. This course gives an opportunity for the student to begin some kind of original investigation which he may continue as a graduate student and allows him a choice of many lines of field-work which could not be commenced during the early part of the academic year.

Animal Husbandry.

Successful agriculture depends very largely on the quality and class of live stock kept on the farm. As the price of farm lands increases the value of farm crops is also increased, and it becomes necessary to produce a better class of animals to consume many of the farm crops and convert them into marketable products. Realizing this, the work of this department has been planned to emphasize this fact and to encourage young men in the breeding and improvement of the various classes of domestic animals. The work has been planned with a view of giving a thorough training along the lines of stock judging and selection, stock-breeding, feeding, general care and management. The College herds have been carefully selected, and among them are found representatives of many of the leading breeds of cattle, horses, sheep, and swine.

1. **Breeds of Stock.** Second year, winter term. A study of the principles of live-stock judging and animal conformation, with special reference to market classes.

2. **Stock Judging.** Two afternoons per week during the winter term of the second year. Animals of the various market classes are brought before the student for inspection and examination. The score-card is used



COLLEGE TEAMS.

GATHERING CORN.

until the student is familiar with all parts of the animal; then he is required to do group judging.

3. **Stock Feeding.** Third year, spring term. The practical feeding of the various classes of domestic animals for most profitable results is given in this course. The student is shown how to apply his knowledge of feeding standards and tables of digestible nutrients in feeding-stuffs to actual feed-lot conditions; the most economical combinations of feeds for maintenance, the production of milk, and the growing and fattening of the various classes of animals for market. Special attention is given to conditions prevailing over our own state. The results of experimental feeding by the experiment stations of this and surrounding states are freely drawn upon in this subject. It must be preceded by course 7 of the chemistry department.

4. **Live Stock II.** (Elective.) Fall term, fourth year, is the study of the origin and development of all the breeds of domestic animals. This work must be preceded by breeds of stock.

5. **Stock Judging II.** (Elective.) Fall term, fourth year. Group judging and a study of types and characteristics of pure-bred animals.

6. **Animal Products.** (Elective.) First half of winter term, fourth year. Slaughtering methods, cutting and curing of meats, and the manufacture of animal products.

7. **Live-stock Management.** (Elective.) Second half of winter term, fourth year. The housing, care, management and marketing of live stock.

8. **Animal Breeding.** Spring term, fourth year. A study of the laws of heredity, variation, atavism, selection, etc.; methods and results of crossing, inbreeding, line-breeding, etc. The methods employed by the leading improvers of live stock are studied in connection with the application of these various laws, and the student is shown how to maintain and improve his own flocks and herds by a knowledge of the fundamental principles of breeding.

9. **Study of Pedigrees.** (Elective.) First half of spring term, fourth year. The tracing and writing of pedigrees of all breeds and studying the rules and requirements of the various record associations.

10. **Stock Feeding II.** (Elective.) Second half of spring term. More advanced work relative to the most-approved methods of feeding the various classes of live stock, special attention being given to recent experimental results of the various experiment stations. The course is a continuation of course 3, which must precede it.

Architecture and Drawing.

Drawing is the language of form and the key to every artistic and nearly every industrial pursuit. The educational and practical value of an extended and systematic course in its various branches can hardly be overestimated. The general aims of the several courses in industrial art are the same: (*a*) The cultivation of observation and analysis of form; (*b*) the development of correct taste; (*c*) the teaching of the different methods of graphic representation; (*d*) the acquirement of skill in handling drawing tools.

Of the studies described below, Nos. 1 to 4, inclusive, are required in all courses; Nos. 5 and 7, in the general science course; Nos. 5 and 6, in the engineering courses; and Nos. 8 and 9, in domestic science.

The College furnishes drawing-board, T square, triangles and water-colors for the graphic work done at the College; but all tools for home use, including drawing-board, T square, triangles, compasses, shading pen, and protractor, must be furnished by the student.

1. **Free-hand Drawing.** First year, fall term. Exercises with forms involving the right line and the arc, illustrating the effects of geometrical arrangement, repetition, alternation, symmetry, proportion, harmony, and contrast. After a few lessons in geometrical lines, the conventional surface ornament is taken up, and more subtle curvatures and complex forms are introduced. Text-book, Walters's Industrial Drawing, envelopes 2 and 7.

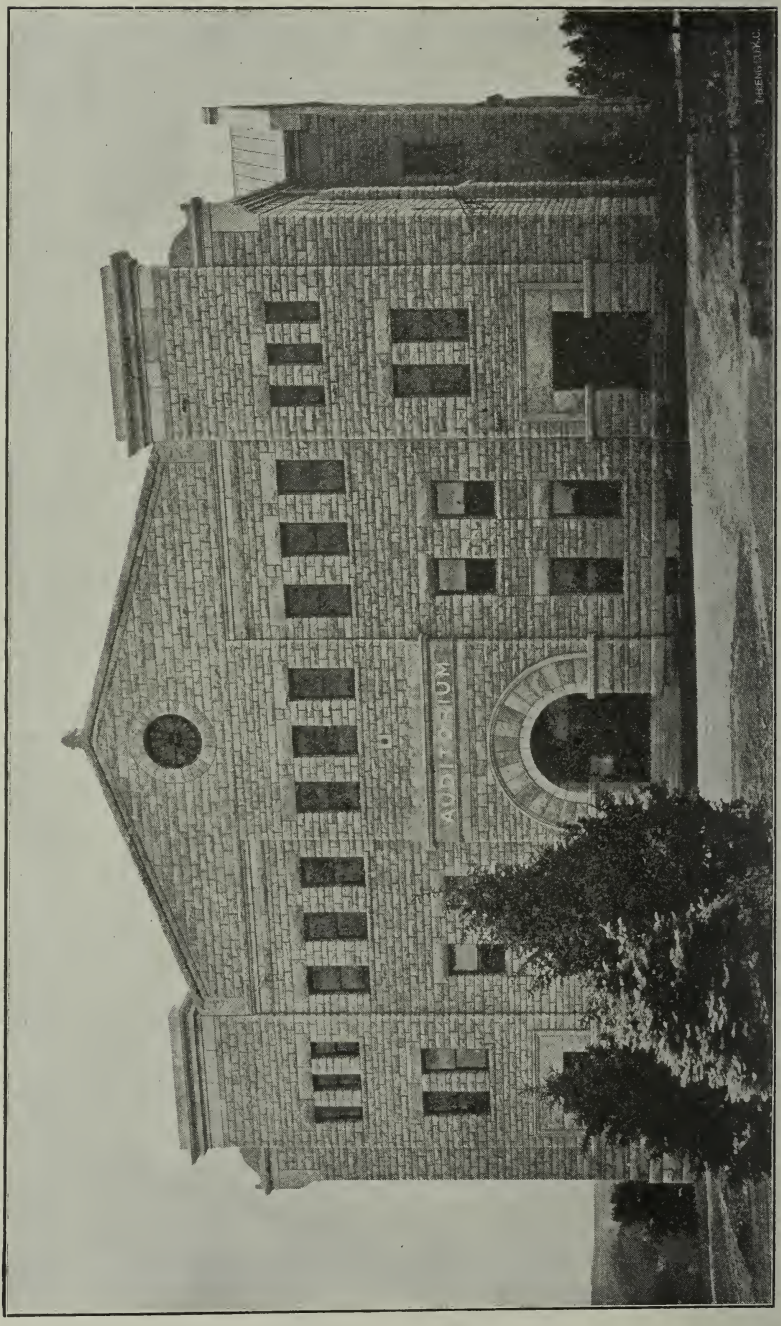
2. **Object Drawing.** First year, winter term. Discussion and drawing of geometrical models and simple objects. Exercises in shading from the object and from the imagination.

3. **Geometrical Drawing.** First year, winter term. Construction of perpendiculars, parallels, angles, polygons, tangents, etc. Construction of the ovoid, oval, ellipse, and spiral. Drawing, in India ink and water-colors, of various geometrical designs and architectural forms. Use of drawing-board and T square. Text-book, Walters's Industrial Drawing, envelopes 11 and 12.

4. **Elementary Projection.** First year, spring term. Principles of orthographic projection; the profile plane; the secant plane; rotation in space; change of ground line. Development of surfaces. Interpenetrations of the prism and pyramid. Projection of the circle, cylinder, and cone. Prerequisite, geometry II.

5. **Projection Drawing.** Second year, fall or winter term. Construction and projection of conic sections. Construction of the spiral and helix. Construction of screw forms. Interpenetrations of the cone, cylinder, and sphere. Shades and shadows of simple geometric forms. Problems in monodiametric and isometric projection.

6. **Descriptive Geometry.** Second year, spring term. Discussion and solution of the usual problems relating to the point, right line, and plane. Generation and classification of lines and surfaces. Discussion and construction of tangents, normals, and asymptotes to lines and surfaces. General characteristics of warped surfaces. Graphic analysis of the hyperbolic paraboloid, the conoid, the hyperboloid of revolutions, the cylindroid, the helicoid, etc. Prerequisite, projection drawing.



AUDITORIUM.

7. **Linear Perspective.** Third year, fall term. Linear perspective is taught as central projection, and is intended to furnish the scientific answers to the questions which constantly confront the student of drawing from the object. It comprises the subjects of vanishing points, vanishing traces, measuring points, cylindric perspective, perspective corrections, shades and shadows in perspective, and studio methods. The models used in the work in sketching are objects whose forms bear close relationship to geometrical types. The students are led to recognize the facts, relations and principles involved in the apparent form of the object, to note the distribution of light, shadow and reflection on the same, and deduce the general principles which the observation and comparison of these appearances are found to establish. Each student is required to make a number of original crayon and ink sketches during the term.

8. **Color and Design.** Third year, fall term. Discussion of the nature and influence of color, its use and abuse, and the principles that underlie good design and consistent, harmonious color combinations. Original designs in construction and decoration as applied to fabrics, dress and articles of common use in the home, that young women may recognize and appreciate that which is beautiful and appropriate, and may become more discriminating as purchasers.

9. **Home Decoration.** Third year, spring term. A study of design in its application to the home; its plan, furniture, and decorations. Emphasis is laid upon the refining and educating influence of well-chosen and appropriate decoration, the importance of simplicity being urged. Lectures on fine arts and the handicrafts, teaching that the home should show that fine art and industrial art are not to be considered separately.

Problems in planning and decorating houses.

The following is a brief outline of the special branches of the course in architecture:

10. **Art Lectures I.** History and characteristic forms of Egyptian, Greek and Roman architecture.

11. **Art Lectures II.** History and characteristic forms of Romanesque, Byzantine, Moorish and Gothic architecture. Influence of climate and building materials.

12. **Art Lectures III.** History and characteristic forms of renaissance and neo-Greek architecture. Development of plastic ornamentation. Rise and growth of landscape art.

13. **Art Lectures IV.** Modern architectural styles and tendencies. Influences of modern machinery, building materials, and methods of transportation. The colonial; the American Romanesque; the American classic.

14. **Art Lectures V.** Architectural details; foundations, roofs, cornices; modern conveniences, stairs and elevators, modern methods of decoration, etc.

15. **Architectural Drawing.** This work is closely adjusted to the subjects of the art lectures given during the same term. It consists of exercises in drawing characteristic details, ornaments, facades, plans and sections of some of the representative buildings of the art period studied. Text-book: Volume 33, International Text-book Company.

16. **Modeling.** Modeling in clay of architectural details and ornaments. Original work in plastic composition. Glue and plaster molds; work in plaster casting. Text-book: Technique of Sculpture, by W. O. Partridge.

17. **Heating and Plumbing.** Systems of heating buildings; methods of ventilation; dry closets; water-supply; plumbing; sewer construction; sewage disposition.

18. **Specifications.** Discussion and composition of standard specifications for residences and simple public buildings.

19. **Estimates and Contracts.** Detail estimates of stonework, concrete, and brickwork, lumber, plastering, painting, labor, etc. Methods of making lump estimates. Study of quotations of building materials. Discussion of the principles and forms of building contracts. The status of the architect and superintendent. Bonds, mechanics' liens, building laws, etc.

20. **Architectural Composition I.** Original work. Each student is required to draw, finish, trace and blue-print a full set of plans, elevations and details of a modern frame dwelling of given cost, size, and general form.

21. **Architectural Composition II.** Original work. Each student is required to draw, trace, finish and blue-print a full set of plans, elevations and the most important details of a modern stone or brick schoolhouse. The general character of the building, its cost, limit, the floor space of its rooms, closets, and halls, and the extent of the required conveniences are given by the instructor.

22. **Architectural Composition III.** Original work. Each student is required to draw, finish, trace and blue-print a full set of plans, elevations and details of a stone church, or public building. The general type of architecture, the character of the building material, the cost, limit of lot and floor space are given by the instructor.

23. **Roofs and Trusses.** Study of modern methods of iron and steel construction applied to columns, struts, beams, trusses, and concrete reenforcements. Study of foundation, roofing and drainage problems. Text-books: Kidder's Hand-book for Architects and Builders; also, Nos. 97-A and 657-B of the International Text-book Company.

Students taking the architecture course are required to devote their summer vacations to practical work in actual building operations.

EQUIPMENT.

The College is well equipped to maintain a course in architecture. Its mechanical workshops are the most extensive west of the Missouri; its physical science laboratories are provided with an abundance of modern scientific apparatus; it owns a rapidly growing collection of several hundred plaster casts, tile and terra-cotta samples, marble specimens, etc.; it has a fine collection of models of the classic orders; a collection of blue-prints of nearly all the Kansas state buildings; a large number of modern books on architecture and engineering; a bound set of the *International* edition of the *American Architect;* a bound set of the *Inland Architect* and of several European architectural magazines; a well-equipped blue-print room, etc. The substantial stone buildings of the institution and the complete system of water-supply, drainage, heating and lighting furnish excellent illustrative material.

Botany.

The instruction in the botanical department is along three lines:

First, as a Pure Science.—The department aims to give the student the training in observation and scientific reasoning, and also the information which he should have as a matter of general knowledge, regardless of his subsequent vocation. Botany is the first natural science to which the student is introduced in his College course, and for this reason it is necessary that he receive in this department his elementary training in scientific methods.

Second, as a Science Underlying Agriculture.—It is well recognized that botany is one of the most important of the sciences upon which the practice of agriculture is based, for the reason that botany deals with plant life, and plant life is at the basis of agriculture. Whenever practicable, illustrations and examples in both the elementary and advanced work are chosen with particular reference to their bearing upon agriculture.

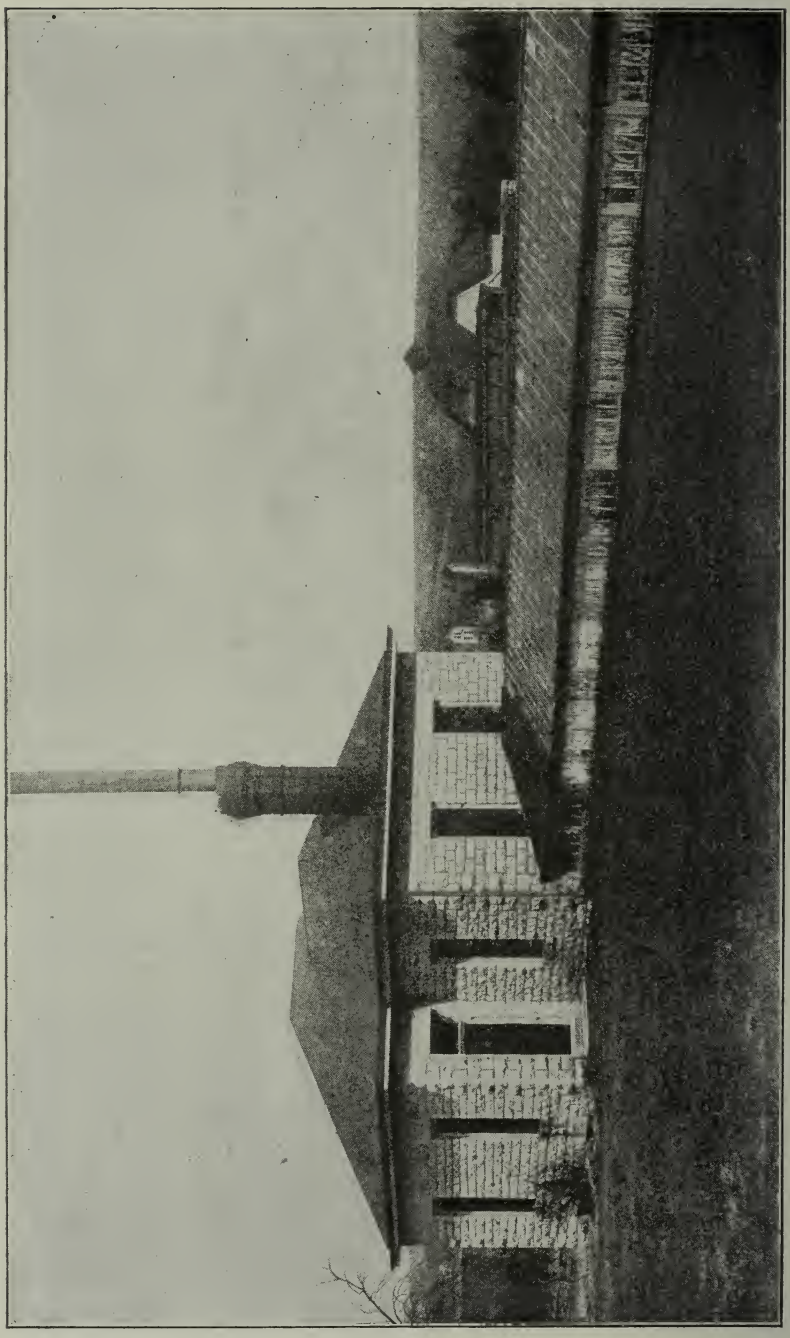
Third, Technical Botany, including such subjects as are of direct application in agriculture. The training in the special botanical studies of the agriculture course is chiefly of this nature, as will be seen by consulting the outline below.

Of the studies described below, No. 1 is required in all courses, and No. 2 in the general science course.

1. **Elementary Botany II.** First year, fall term. This course covers the elements of morphology, physiology, and ecology. All of the great groups of plants are taken up and discussed in the order of their evolutionary development. Especial attention is given to the changes in structure which appear in response to changes in environment. Emphasis is laid upon the plasticity and adaptiveness of the plant organism. By grasping this fundamental conception at the outset, the facts of plant life, particularly studied in horticulture and agriculture, become more comprehensible and significant. A general study of the classification of the plant kingdom, sufficient to enable the student to understand the broad outlines and the relationships of the great alliances secured in this course, and, by coming into close contact with plants as living organisms in their natural habitats, he becomes acquainted with the factors that regulate their life and activity. Coulter's Plant Studies is the text used.

Field-work.—Certain definite problems in plant ecology are assigned to different groups of students, and a report of observations made, together with drawings of twenty-five representative plants in the localities studied, is required. The materials called for are: A drawing tablet, a key to the local flora, published by the department, and a simple lens.

2. **Plant Morphology.** Fourth year, winter term. In this course the forms and structural relations of representatives of all the great groups of plants are studied in detail in the laboratory. The purpose is to give the student a comparative insight into the morphological characters of the more important groups of the plant kingdom, and a conception of their genetic relationships and their development and position in the evolutionary series. Coulter's Plant Structures is the text followed, supplemented by lectures.



EXPERIMENT STATION BUILDING.

Laboratory.—Laboratory work occupies four hours per week throughout the term. Accuracy of observation is tested by exact studies of representatives of all the great groups of plants, both with the unaided eye and by means of the microscope. Detail drawings, according to furnished outlines, are required. Drawing materials are provided by the student. All necessary reagents and instruments are supplied by the department.

ELECTIVES.

3. **Plant-breeding.** Fourth year, spring term. This course is devoted to the study of the evolution and breeding of plants. The laws of heredity and variation are studied in detail, with especial reference to their application to the improvement of economic plants, and a critical study is made of the principles underlying seed and plant selection and hybridization. The history of the evolution and development of economic plants is taken up in considerable detail, and a critical examination is made of the methods followed and results obtained by investigators in plant-breeding here and abroad. The extended series of experiments now being conducted by the Experiment Station will be used for illustrative purposes. The course is given by lectures, supplemented by laboratory work, and a seminar in plant-breeding, held once a week.

Laboratory.—Laboratory work will involve experiments in seed and plant selection, hybridization, the statistical study of variation, etc.

4. **Plant Diseases.** Fourth year, fall term. The term is devoted to the study of causes of diseases in economic plants. The study is familiarized by lectures upon the great groups of the parasitic fungi and their chief subsidiary groups. The general morphology of these is discussed successively, and the morphology and physiology of the particular representative of each selected for laboratory study is given in detail, together with combative and preventive measures. A rich herbarium of types and a constantly growing set of duplicates furnish abundant material for the work, and are supplemented by alcoholic specimens properly killed and fixed, and by prepared slides. Ample literature on the subject of plant diseases is afforded by the library of the department and of the Experiment Station. H. Marshall Ward's Diseases in Plants is used as a text. Prerequisites are courses 1 and 2, or their equivalents.

Laboratory.—In the laboratory work pathological specimens are examined and the changes induced in plants by fungi and by abnormal physical conditions are studied in detail under the microscope. The object of this course is rather to study the workings of diseases from the standpoint of the host than to become acquainted with the groups of parasitic fungi, although a sufficient study of the morphology of these for practical purposes is made in the laboratory.

GRADUATE COURSES.

5. **General Morphology of Thallophytes.** Winter term. Lectures and laboratory work. This course involves a detailed study of the morphological characters of the algæ, fungi, and lichens.

6. **General Morphology of Bryophytes and Pteridophytes.** Spring term. Lectures and laboratory work. The work begun in course 4 is here continued in the higher groups of liverworts, mosses, and ferns. Especial attention is given to evolutionary lines of development in these groups.

7. **General Morphology of Spermatophytes.** Spring term. Lectures and laboratory work. The work of this course will be given in alternate years with course 5, and covers the morphology of the gymnosperms, monocotyledons, and dicotyledons, representatives of each of the chief groups of these great alliances being studied in considerable detail.

8. **Morphology and Physiology of Economic Grasses.** Spring term. Lectures and laboratory work. This course contemplates a detailed study of the cereals and other economic grasses; their history, distribution, structure, and habits.

9. **Ecology.** Fall term. This course involves the study of the reactions of plants to their environment in their associative relations as plant societies. Problems of ecological and geographical distribution will be considered, and as far as possible the work will be made individual, each student being directed into some special ecological question as early as possible. Lectures and conferences will furnish general guidance, and special reading will be assigned. The work proper will be strictly in the field.

10. **Plant Histology.** Spring term. This is a course in laboratory methods, involving a study of the processes of killing, fixing and preserving plant tissue; dehydrating, embedding in paraffin and celloidin; microtome sectioning; staining and mounting of slides. A varied series of preparations will be worked upon, with a view to the acquisition of facility in technique and in the preparation of material for research.

MEANS OF ILLUSTRATION.

A general herbarium, consisting of a large collection of plants of the United States and other countries; a Kansas herbarium, containing specimens illustrating the distribution and variation of plants throughout the state; a twig herbarium, illustrating woody plants in their winter condition; and a seed herbarium, containing a representative collection of seeds and fruits, amounting, all together, to about 70,000 specimens; also thirty-eight compound microscopes, seven dissecting microscopes, tools, reagents, etc. The department is provided with a zinc culture room, and the ordinary apparatus for bacteriology, and with Minot and Schanze microtomes, paraffin embedding ovens, and a complete equipment of glassware and stains for histological and cytological work.

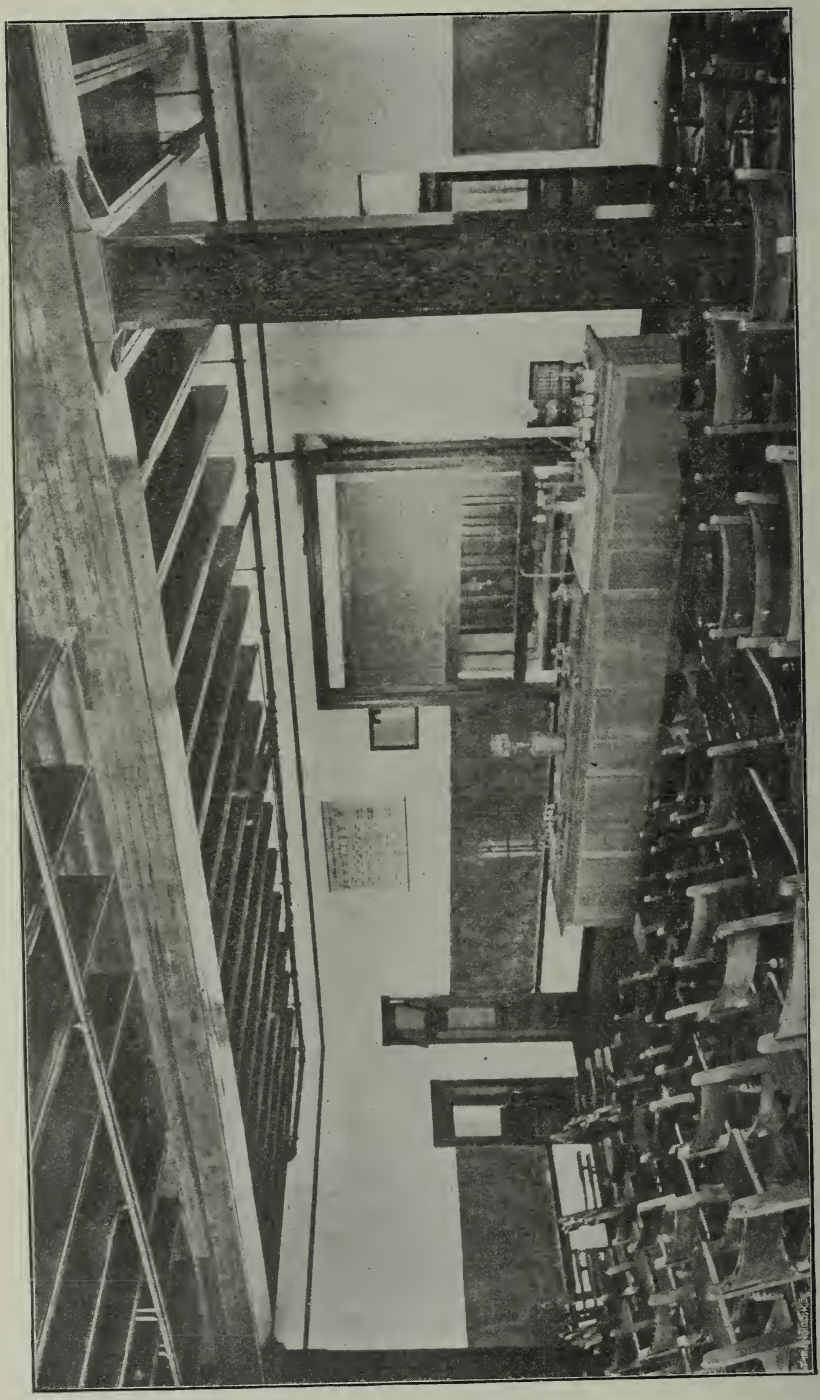
Chemistry.

All the industries are becoming more and more dependent for their highest success upon intelligent application of the sciences, and the special sciences are making their greatest progress by tracing their phenomena back to the physical and chemical changes that accompany them. A study of chemistry and physics is therefore essential to any understanding of the processes of nature or human industry. In the instruction in chemistry the aim is to insist upon a mastery of the chief concepts of the pure science through the agency of text-book drill, accompanied by demonstrations in the lecture-room, and experimental observations by the student himself in the laboratory. As the course proceeds, illustrations of chemical principles are drawn from the industrial processes of the chemical, agricultural, domestic and other arts, thus impressing the practical nature of the study. The ultimate object of the instruction is to develop in the student the power to form independent judgments upon the manifold problems of daily life in which chemistry plays a part.

Of the studies described below, Nos. 1 and 9 are required in all courses. In addition, the engineering courses require Nos. 4, 5, 12, and 13, and the agriculture, domestic science and general science courses Nos. 2, 3, 10, and 11. The domestic science course also requires No. 6, and the agriculture course Nos. 7, 8, and 14.

1. **Chemistry I.** Second year, fall term. This term's work is designed to give the student a knowledge of the fundamental principles of the science as illustrated by the chemistry of the non-metals and that of some of the metals. As all subsequent progress in this science requires a working knowledge of its principal theoretical conceptions and of the rules for naming compounds, the significance of formulæ, chemical equations, etc., much attention is given to these as well as to the practical uses of the substances and processes in metallurgy, engineering, agriculture, and other arts. The text-book, Newell's Descriptive Chemistry, is supplemented by lectures when necessary, and the subject is amply illustrated by experimental demonstrations. Elementary physics is a prerequisite.

2. **Chemistry II.** Second year, winter term. A systematic study is made of the simpler examples of the more important classes of organic compounds in their logical chemical relations. Such substances as touch the every-day affairs of life are treated with greater detail. Opportunity is thus afforded to consider the hydrocarbons, alcohols, organic acids, fats, soap, sugars, starch, proteids, and other less known substances. Compounds used for clothing, food, fuel, light, antiseptics, disinfectants, anesthetics, poisons, medicines, solvents, etc., are included. While the useful organic compounds have special attention given them, the study of others is not excluded when they contribute to an understandiug of the systematic relations existing among the several classes. Any serious study of the biological sciences, or of the arts connected with them, must require this as a foundation. The subject is amply illustrated by experiments in the lecture-room. Text-book, Remsen's Organic Chemistry, in part, accompanied by lectures amplifying the treatment of constituents of foods. Course 1 is a prerequisite.



CHEMICAL LECTURE ROOM.

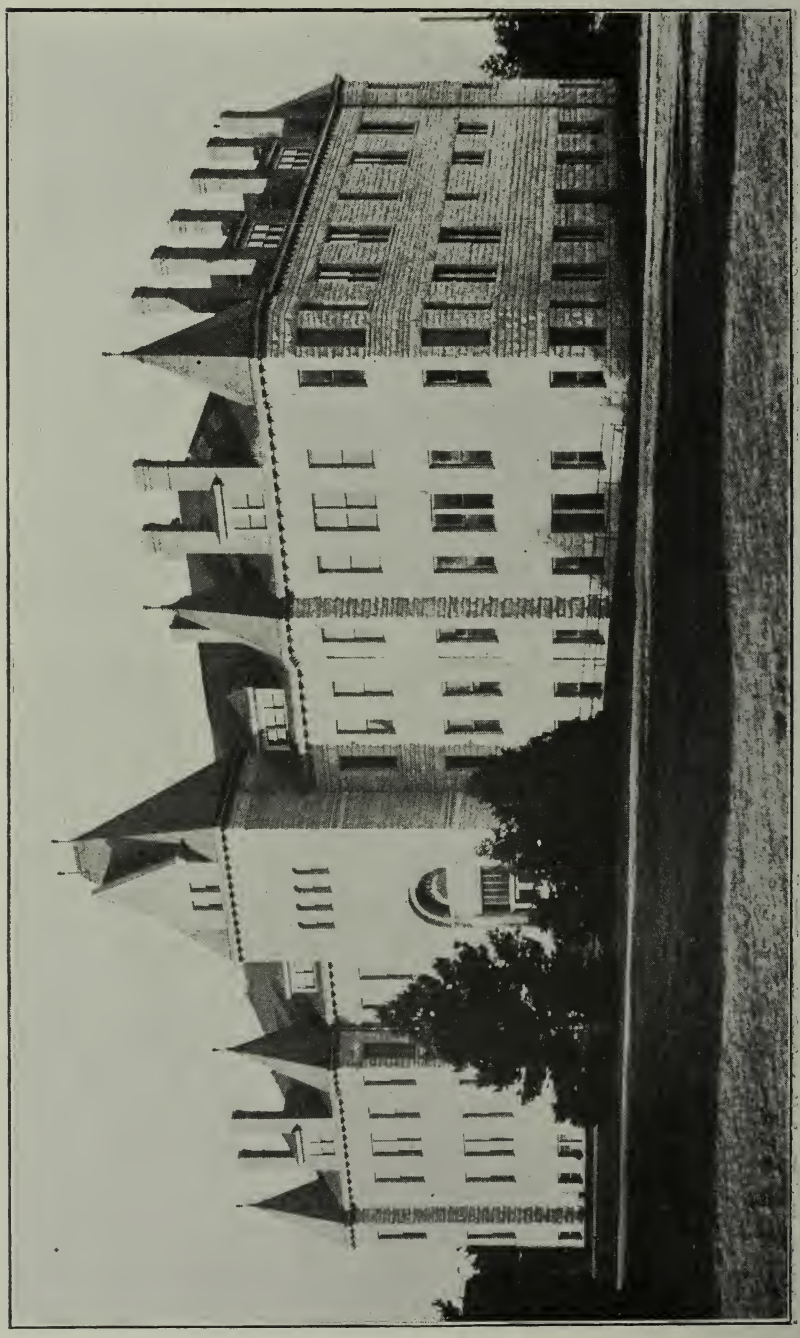
3. **Chemistry III.** Second year, spring term. In this and the accompanying laboratory work, the prime object is to increase the student's knowledge of chemistry as a whole. The science is so difficult that with most students the one term of inorganic chemistry does not do more than introduce them to it. In chemistry III the standard methods of analytical chemistry are made the basis of a systematic study of the chemical properties of the most important metals, non-metals, acids, bases, and salts. The teaching of analysis as such is a secondary object, although the student is held to the exact observations and careful reasoning required in ascertaining the composition of single substances and mixtures. The lessons, which are outlined in a special pamphlet, include a review of the more important topics of inorganic chemistry, in which natural occurrence of elements and compounds, industrial chemical processes and analytical reactions are seen to be closely connected. The pamphlet also includes simple treatment of some general chemical laws, in accordance with modern views. The exercises are so arranged as to pass from the simple to the more difficult, and at the same time facilitate the comparative study of the several cations and anions. The theories of chemistry receive constant application, and the effect of the course is to broaden, strengthen and unify the student's ideas of general chemistry, greatly to enlarge his knowledge of chemical facts, and at the same time fix many of them by their association with the reactions made use of in analytical chemistry. Must be preceded by courses 1, 9, and 10.

4. **Chemistry IV.** Second year, winter term. In this course engineering students give special attention to the metals used in construction and other engineering operations and to compounds of metals of engineering significance. This course completes Newell's Descriptive Chemistry and includes a series of lectures on alloys, materials of construction, etc. Must be preceded by course 1.

5. **Chemistry V.** Second year, spring term. The work given in this course is similar to that of chemistry III, but adapted, as far as may be, to the needs of engineering students. Must be preceded by courses 4 and 12, and accompany 13.

6. **Human Nutrition.** Third year, fall term. This is a course of lectures on the chemistry of foods and nutrition, and includes the following topics, with others: Composition of the animal body; composition of foods and methods of investigation employed in their study; the changes that the several classes of foods undergo in cooking and digestion, and the functions that they perform in nutrition; daily food requirements, and the balancing of dietaries; food economy. Course 2 and physiology must precede this course.

7. **Animal Nutrition.** Third year, fall term. This course is designed to provide a thorough scientific basis for the study of practical stock-feeding. It is a study of the relation of the animal body to matter and energy, and includes consideration of the methods of investigation employed, and of the following topics, with others: The chemical characteristics of the more important feeding-stuffs and causes of their variation in composition; the chemical changes that feed undergoes in digestion; the tissues that can be built up by the several proximate principles of feeds, and the bodily func-



PHYSICAL SCIENCE HALL.

tions that they can sustain; hence, the requirements of the animal as modified by the purpose for which it is fed; the channels through which the energy of feed is lost or is utilized. Lectures and parts I and II of Henry's Feeds and Feeding. Course 2 and physiology must precede this.

8. **Agricultural Chemistry.** Third year, spring term. Among the subjects treated are: The soil-making rocks and minerals, and the agencies by which soils are formed from them and other minerals; the soil requirements of different crops; the sources of soil fertility, and means of conserving it; the general relations of plants to earth, air, and water. Text-book, Snyder's Soils and Fertilizers. This is supplemented by lectures. Courses 3 and 4 must precede this.

9. **Chemical Laboratory I.** Second year, fall term. This course accompanies chemistry I. As far as time permits, the student performs, independently, experiments touching the preparation and properties of the more important inorganic substances. Preference is given to those operations which illustrate important principles, and the student is required as far as possible to study experiments in that light. In this, as in all other laboratory work in chemistry, the objects are, to illustrate chemical phenomena, and to teach care in manipulation, attentive observation, logical deduction, and discrimination and accuracy in recording results and conclusions. The student is not only required to give the designated amount of time, but at least a minimum amount of work must be satisfactorily performed in order to obtain credit.

10. **Chemical Laboratory II.** Second year, winter term. This includes blowpipe analysis of the more prominent species of minerals, especially those of common occurrence and economic importance in agriculture and engineering. Must be preceded by 9.

11. **Chemical Laboratory III.** Second year, spring term. This accompanies chemistry III. The regular methods of qualitative analysis serve as a basis for a laboratory study of the chemical properties of substances. At first simple known salts are given the student; later, unknown substances, simple and complex, soluble and insoluble. Course 10 is a prerequisite.

12 and 13. **Chemical Laboratory IV and V.** Second year, winter and spring terms. These courses for engineering students are similar to chemical laboratory II and III in general scope, but work in analysis of flue gases and determination of the calorific value of fuels is included also. The exercises throughout are adapted to the special needs of the student for whom they are designed. Course 9 must precede these.

14. **Agricultural Chemistry Laboratory.** Third year, winter term. Six hours per week are given to laboratory work, which consists of simple quantitative exercises, as far as possible upon substances of direct agricultural interest. These are so planned as to give as great variety of training as possible in the limited time available. Prerequisite, course 11.

MORE ADVANCED COURSES.

Advanced work in chemistry is offered in graduate courses and as electives in the general science course. Classes requiring lectures and recitations will not be organized for less than three students.

15. **Inorganic Chemistry.** Fall and winter terms. This course is a thorough study of one of the larger text-books, such as Richter's or Newth's, accompanied by a special course of laboratory work.

16. **Organic Chemistry.** Spring term. This course includes laboratory work, and the study of a text-book adapted to the advancement of the students. When sufficient demand exists it will be extended to two terms.

17. **Chemistry of Foods.** This course is designed for graduate students taking domestic science, and extends through a year. It consists of the study of the literature treating of food and nutrition from a chemical standpoint, accompanied by laboratory work in the separation and study of the constituents of foods, drinks, and condiments. This course may be extended to almost any extent, and leads naturally to the quantitative analysis of foods.

18. **Quantitative Analysis.** This may be taken at any time after completing course 3. After the necessary preliminary training, the student may give special attention to any line of quantitative analysis, such as that of foods and fodders, soils and fertilizers, ores, water, gases, etc. The investigation of special chemical questions is encouraged.

19. **Historical and Theoretical Chemistry.** This course may be arranged for by students who have completed courses 15 and 16.

20. **Mineralogy.** Crystallography, the study of minerals and blowpipe analysis may be taken concurrently or separately.

21. **Journal Meeting.** Once a week throughout the year, the officers of the department, with the more advanced students and such others as wish to, meet for papers and discussions upon topics representing the progress of chemical science, chiefly as found in the current journals. The preparation of subjects for presentation at these meetings is a part of the required work of graduate students and of those electing courses 15 and 16.

MEANS OF ILLUSTRATION.

The lecture-rooms are provided with excellent facilities for demonstrations, and the laboratories have the necessary items of equipment, to which additions are constantly being made. The laboratories for the first year's work in chemistry will accommodate 138 students at one time, and the desks are so constructed that they may be used by an equal number working at another time. The laboratory for more advanced work provides places for forty-eight students. All of the laboratories are well supplied with draft hoods. Each student's place is provided with gas and water, and distilled water is piped to all of the laboratories. The collections include representative specimens of the most important ores and minerals, a set of natural crystals, a set of large crystal models, a collection of the minerals of the noted Stassfurth deposit, and chemical preparations illustrating subjects taught.

Dairy Husbandry.

In the dairy department instruction is given in the manufacture of dairy products, and everything connected with the management of a commercial creamery, cheese factory, sanitary milk plant, etc., in such a manner that the student can intelligently handle any problem that is likely to confront him in his work afterwards.

The instruction in dairy husbandry is planned with a view of awakening and encouraging an intelligent interest in live stock, so that a student, when he sees an animal, will at once compare it with an ideal that he carries in his mind and note wherein it falls short.

The values of the different feeds and combinations of feeds are taught, so that the student will be able not only to combine feed stuffs to get the required nutrients, but to combine them in the most economical manner to produce desired quantity and quality of product.

The principles of breeding as related to the raising of dairy animals are studied, so as to enable the student to know how our improved breeds of live stock have been developed, and how animals of superior merit may not only be perpetuated but improved. This work includes practice in tracing out pedigrees.

The aim is to give the student such knowledge and skill as will enable him to return to the farm and select, feed and breed the best dairy animals it is possible for him to obtain, or, if he has no farm of his own, opportunities are open for young men, after getting some experience, to work into positions as farm managers. Nos. 1, 2, 3 and 4 are required in the agriculture course.

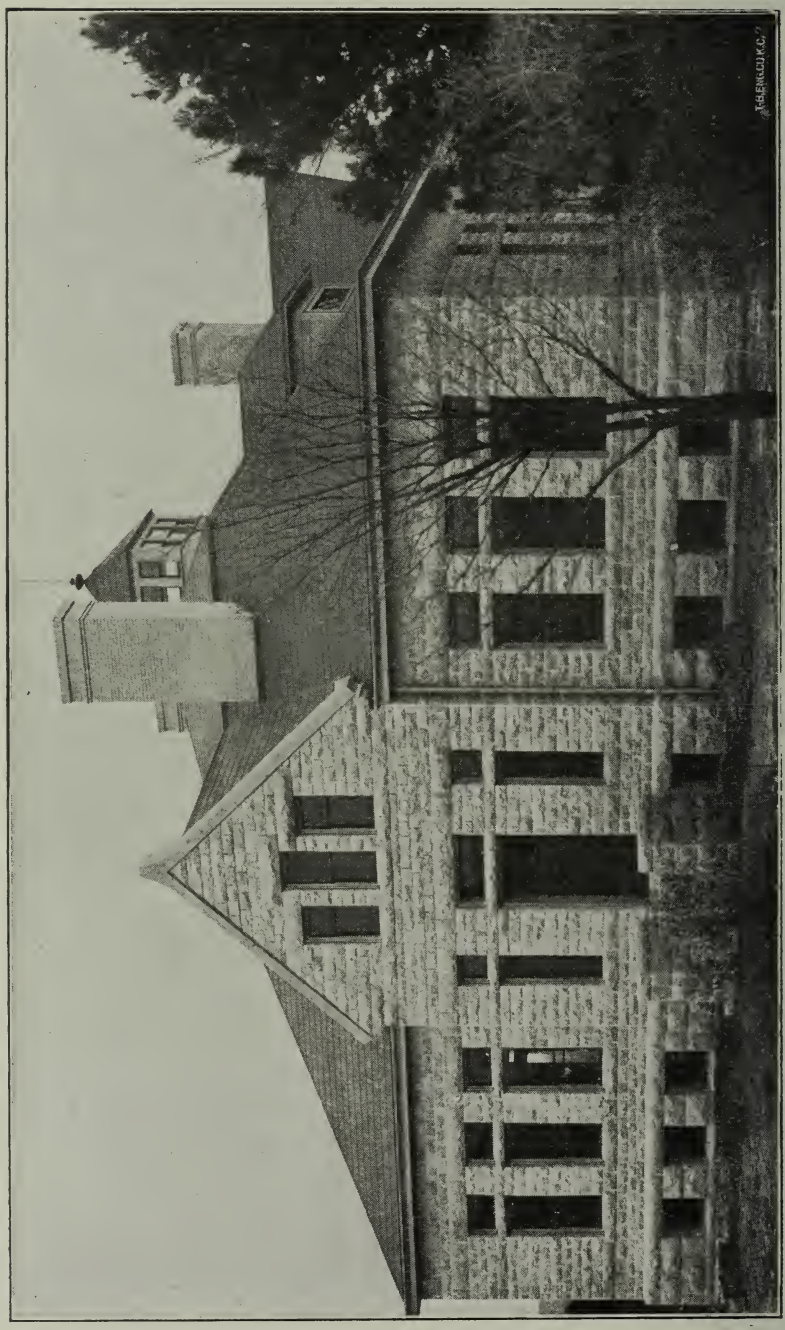
1. **Dairying.** Second year, fall term. Milk—its secretion, nature, and composition; testing milk, cream, skim-milk, buttermilk, and whey; conditions influencing the quantity and quality of milk; handling of milk for butter and cheese; study of the various hand separators; the proper handling of cream and elementary butter-making.

Laboratory.—Practice in testing milk and its various products; detection of adulteration; tests for distinguishing oleomargarine and butter; testing accuracy of glassware; study of the various hand and power Babcock testers and cream separators. Practice in separating milk; pasteurizing, ripening and churning cream; different methods of testing the acidity of milk; rennet test; setting milk; curd cutting; salting, pressing and curing of cheese.

ELECTIVES IN DAIRYING.

2. *Preparation and Marketing of Milk* embraces pasteurization, clarification, standardization; the general care, handling and marketing of milk; arrangements and appliances necessary to furnish to the consumer milk that has been prepared under the best sanitary conditions.

3. *Special Dairy Products* is a study of the various ways in which milk and its products are utilized in special purposes, such as the manufacture of ice-cream, condensed and modified milk, and the preparation of milk-sugar and casein, which are used as a basis of many of the commercial products.

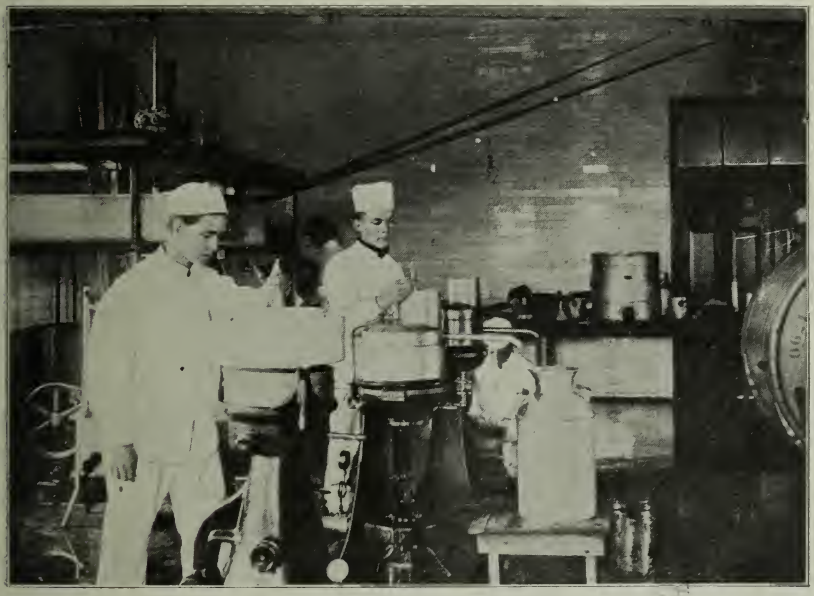


DAIRY HALL.

4. *Advanced Butter-making* includes the receiving and separation of milk, turning of hand separators, cream preparation, perpetuation of starters, pasteurization and ripening of cream, and the determination and effect of the different per cents. of acidity in cream; churning, working, packing, marketing and scoring of butter.

5. *Dairy Management and Bookkeeping* embraces the construction of dairy buildings, the state of refrigeration and conditions to obtain the greatest possible degree of economy in dairy operation; practice in bookkeeping that will enable the student to understand the underlying principles, followed by a training in the keeping of dairy accounts.

6. *Cheese-making* consists in the manufacture of cheddar, cottage and cream cheese.



DAIRY SEPARATOR ROOM.

Domestic Art.

This department provides a systematic course in plain sewing and dressmaking. The course of work in plain sewing is carefully graded, not only to insure a thorough knowledge of the subject, but to develop habits of order, accuracy, and self-reliance. Each pupil is required to keep a notebook, in which she records a description of the work accomplished. A written examination is held at the close of each term.

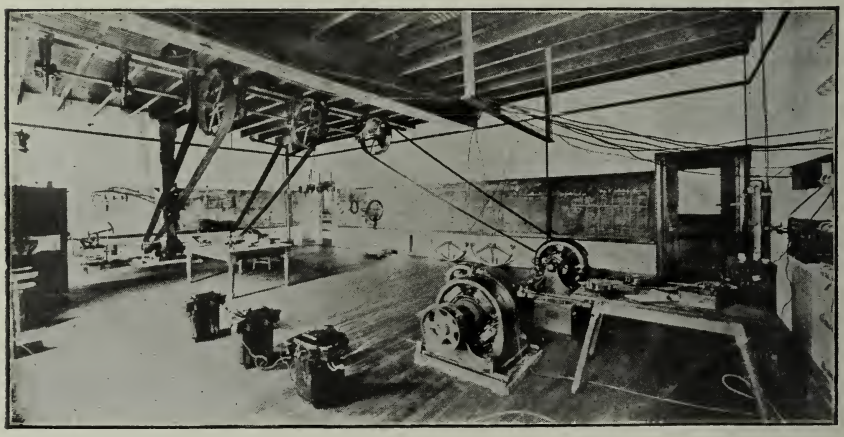
Of the studies described below, all young women are required to take Nos. 1, 2, and 3, and those in the domestic science course must take No. 4. Materials for No. 1 are furnished by the College, the pupil furnishing her own thread, thimbles, needles, etc. In Nos. 2, 3 and 4 the pupil furnishes her own materials and makes the garments.

1. **Sewing I.** First year, fall term. The pupils make a book of models covering the full course in hand sewing, consisting of basting, hemming, overhanding, gathering, darning, patching, etc. Lectures are given upon the use of each model.

2. **Sewing II.** First year, winter term. Care and use of sewing-machine. Machine practice. Discussion of appropriate materials and trimming for undergarments. Drafting, cutting and making underskirt and drawers.

3. **Sewing III.** First year, spring term. Drafting, fitting and making dresses without lining.

4. **Dressmaking and Fabrics.** Second year, winter term. Nos. 1, 2 and 3 are prerequisites for this course. The use of a dress-cutting system is taught, and each pupil will be required to draft, cut and make a woolen dress. Discussion of appropriate and hygienic dress. In connection with the dressmaking, the student will be given thorough instruction in fabrics and their manufacture.



ELECTRIC ENGINEERING LABORATORY.

Domestic Science.

The object of the course in domestic science is to fit young women as home-makers and as capable women in whatever sphere their life-work may be. Such, then, as tends to cultivate correct observation, accurate reasoning, generous judgment and an appreciation for the beautiful in nature and art may rightfully find a place in such a course.

That which most especially pertains to woman's province, the home, is dependent upon the sciences of chemistry, physiology, bacteriology, and hygiene, and direct applications of the principles of these sciences are made in the lessons in cookery, dietetics, home nursing, and household management.

Hygiene and elementary cooking are required of all young women; the remaining courses are required of domestic science students, and may be elected by general science students.

1. **Hygiene.** First year, fall term. This course consists of one lecture each week, and is to be taken by all young women in the first year of attendance. The lectures cover the subjects of baths, exercise, ventilation of study rooms, and other topics that directly bear upon the health of a young woman student.

2. **Elementary Cookery.** First year, winter term. The economic use of fuels; the proper management of stoves and ranges; the care of utensils; the cookery of vegetables, cereals, fruits, milk, eggs, and meat, together with a few lessons in bread baking and cake and pastry making are taught.

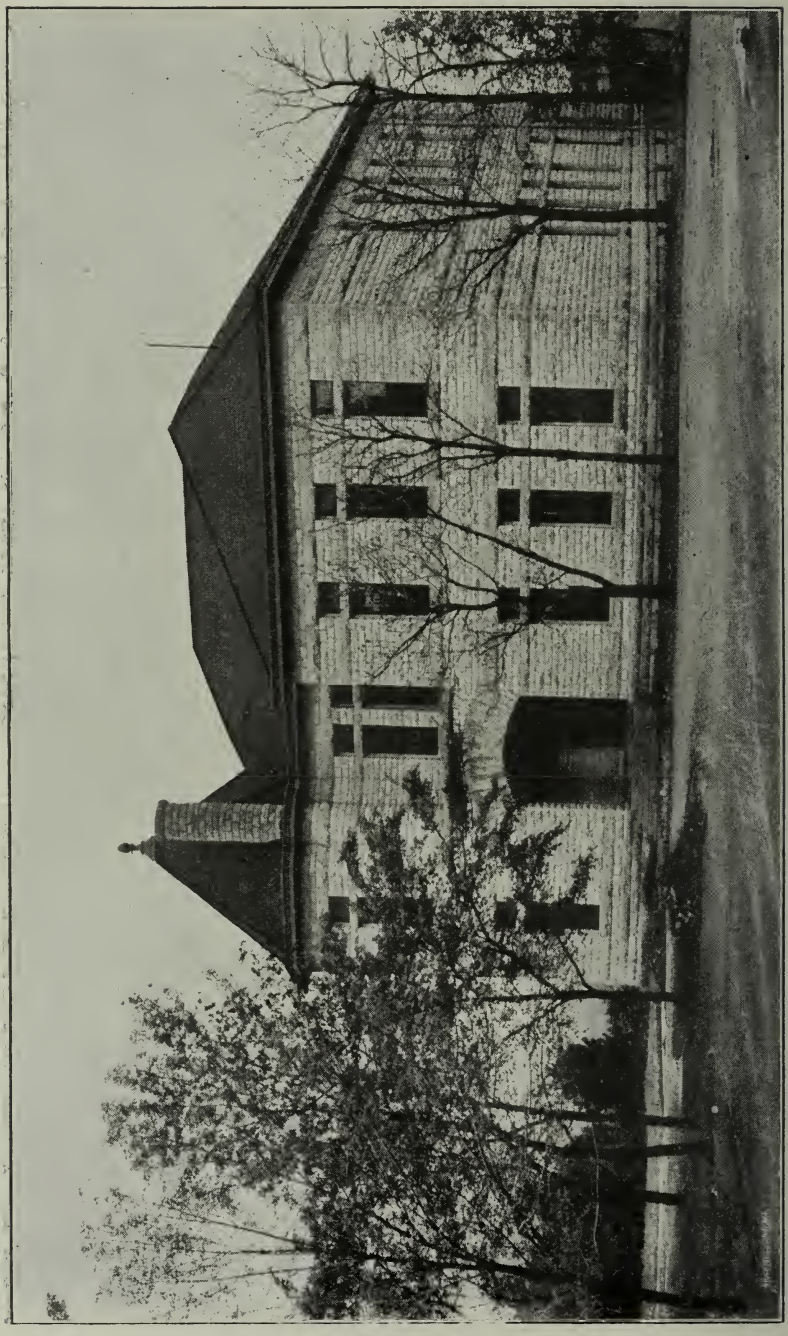
3. **Laundering.** Third year, fall term. The scientific principles involved in laundering are taught, including the use of soaps, washing fluids, and starch, and the removal of stains.

4. **Home Nursing.** Third year, spring term. The course covers the furnishing and care of sick-room, the giving of baths, administration of medicines, record of symptoms, first aid to the injured, and the intelligent use of antiseptics and disinfectants. Bacteriology is a prerequisite. Week-Shaw Text-book of Nursing.

5. **Domestic Science I.** Third year, fall term. This course begins with a study of food preservation, special stress being laid upon the scientific principles involved in household methods. This is followed by lectures on carbohydrate foods, their sources, chemical composition, cooking, digestion, and metabolism. Bacteriology, physiology and human nutrition are prerequisites. Human nutrition may be taken at the same time that domestic science is carried. Text-book: Hutchison's Food and Dietetics.

Laboratory.—Practice is given in canning, preserving, jelly making and bottling fruit juices during the first six weeks. In the second half of the term the work is in cooking vegetables, cereals and combinations of foods in which carbohydrates predominate.

6. **Domestic Science II.** Third year, winter term. This is a continuation of course 5, and the time is devoted to the sources, composition, properties and comparative cost of nitrogenous foods. Text-book, same as in course 5.



KEDZIE (DOMESTIC SCIENCE) HALL.

Laboratory.—Practice is given in the cookery of milk, cheese, eggs, meats, and legumes, separately and in combinations. Extended work is given with meats and breads. Practice in preparation and serving of dinners is given.

7. **Domestic Science III.** Third year, spring term. Fats and oils are studied and the economical purchase of food supplies discussed. Text-book, same as in course 5.

Laboratory.—Practice work is given in pastry- and salad-making, and in the preparation of frozen dishes. The making of menus, with purchase and preparation of materials for breakfasts, luncheons, and dinners, occupies considerable of the time.

8. **Household Management.** Fourth year, fall term. Sanitary construction and care of the house; sanitary, economical and artistic household furnishings; judicious expenditures of incomes, and the keeping of household accounts are the topics treated. Lectures given and reference work required.

9. **Dietetics.** Fourth year, winter term. The balanced dietary, nutritive and dietetic values of various foods and the agreeable and hygienic combinations are taught. Text-book : Thompson's Practical Dietetics.

Laboratory.—The more complicated dishes are prepared and course breakfasts, luncheons, dinners and teas are served. Excursions are made to the mills and markets.

10. **Therapeutic Cookery.** Fourth year, spring term. Abnormal conditions of digestion, assimilation, and metabolism; alterations of secretions and destruction of tissue due to germ diseases are studied, together with the diets adapted to the conditions and needs of the system. Special attention is given to the feeding of infants and small children.

Laboratory.—The practice work consists of the preparation of many and easily digested foods suitable for the sick and the arrangement of trays for invalids. Some demonstration lectures are given by the class. Text-book: Thompson's Practical Dietetics.

Economics.

The technical training which the state provides for young men and women is intended to be of social rather than individual advantage. It is assumed that the student who has been trained at the expense of the state will increase the productive capacity of the community in which he employs his skill, and thus advantage society as well as himself.

His whole obligation to society, however, is not discharged in this way. He owes something to the state as a citizen. As such he cannot escape the responsibility of contributing his share towards the solution of economic problems which grow out of the complex industrial system of which he is a part. To this end he should be familiar, at least, with the fundamental principles which underlie the production, exchange and distribution of wealth, and which enter so largely into the numerous economic problems that await popular solution.

It is the aim of this department, therefore, to emphasize the application of economic principles to industrial conditions. In doing this care is taken

to avoid a dogmatic presentation of any subject. Students are encouraged to form habits of investigation and correct thinking before arriving at conclusions. The instruction given is by a combination of the text-book and lecture method, which offers a means of escape from the narrowness and dogmatism that result from exclusive reliance on a text-book, and from the waste of time in imparting information by lectures only, when such could be acquired more surely and quickly from the printed page. A department library of well-selected books bearing on economics, sociology and statistics is at the disposal of students, and is used for collateral readings, book reviews, and reports.

A term's work in this subject is required in the senior year of all courses. Text used, Seager's Introduction to Economics.

BOOK-ROOM.

English Language and Literature.

As its name implies, the work of this department is twofold: on the one hand it deals with the derivation, nature and especially the effective use of our mother tongue in practical discourse; on the other, it studies the literature of the English-speaking world, as exemplified by the master writers at different periods of our literary development. Thus, the attention of the department is devoted to the study of rhetoric and to the study of literature.

The aim of the instruction in rhetoric is to give a thorough and systematic training in the principles and practice of English composition. The most common errors to which inexperienced writers are subject are pointed out and criticized. The elements of style are studied from a text-book, discussed in daily recitations, and applied practically in the writing of paragraphs, themes, and essays. Attention is given to methods of finding, selecting and arranging material and to the application of these methods in the various types of discourse.

In literature, the instruction seeks to give the student an understanding of the nature and characteristics of literature in its leading forms, to develop in him a taste for the best literature and enthusiasm for literary study, to impart to him right methods, to train him in the ability to judge with confidence the literary qualities of any given work, and, through sympathetic study of masterpieces, to give him some knowledge of the leading authors.

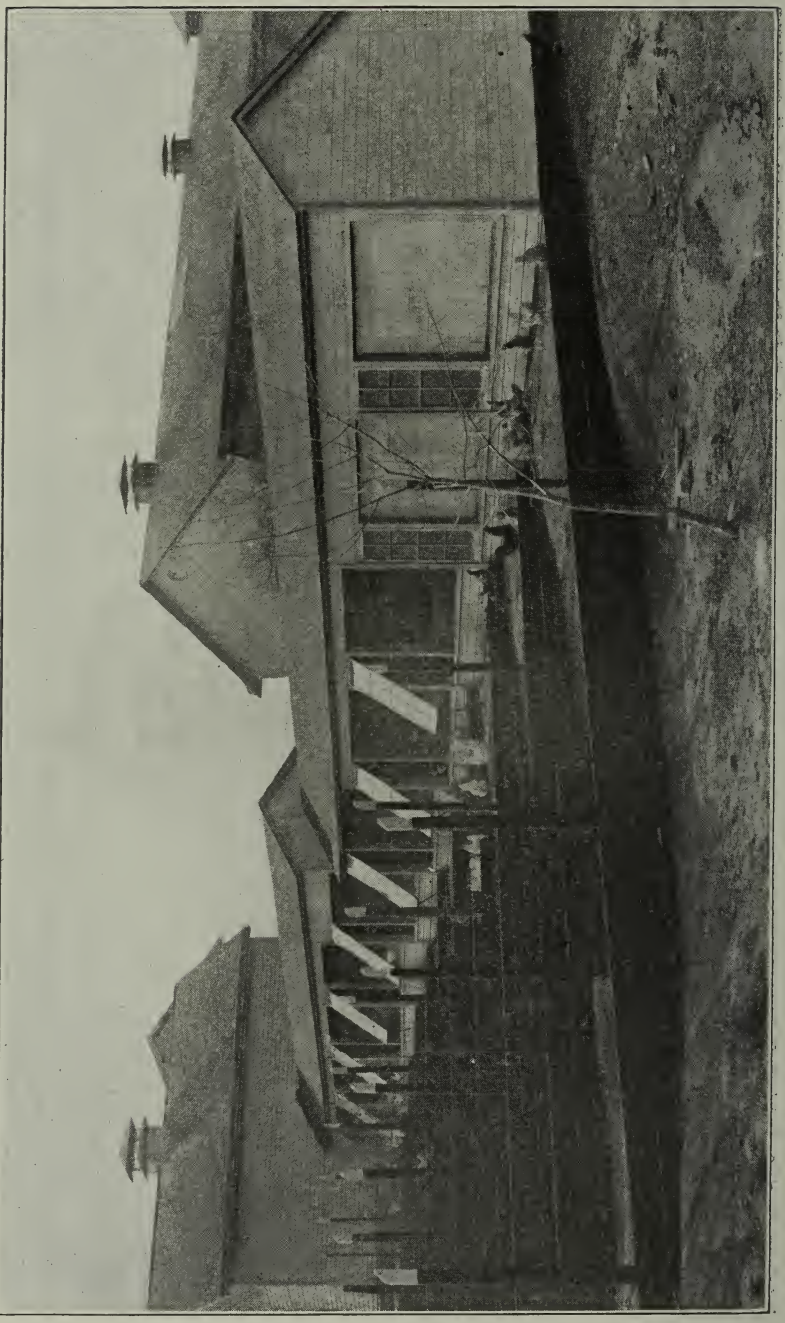
In most of the courses the work is pursued by a combination of lectures, classroom study, and seminary investigation. The literature is read at first hand and the student is required to do for himself, by way of interpretation, as much as possible. The extensive and intensive methods are combined: wide reading, to get literary atmosphere and breadth of view; critical study, to develop accuracy and insight. While historical conditions are not neglected, the weight or emphasis is placed upon the permanent qualities of literature as an artistic expression of life. To know what some one has said about a great author is deemed to be of less importance than what a great author has said for himself.

Students who present acceptable evidence of having satisfactorily studied the works now generally prescribed for admission to American colleges and universities, or the equivalent of those works, may receive credit for the course in English readings given in our preparatory year and for the course in English classics given in the first year. The works prescribed are divided into two groups—one for intelligent reading and one for careful study. The lists for the next two years are as follows:

I. For Reading: Shakspere's The Merchant of Venice and Julius Cæsar, the Sir Roger de Coverley Papers, Goldsmith's The Vicar of Wakefield, Coleridge's The Ancient Mariner, Scott's Ivanhoe, Carlyle's Essay on Burns, Tennyson's The Princess, Lowell's The Vision of Sir Launfal, George Eliot's Silas Marner.

II. For Careful Study: Shakspere's Macbeth, Milton's Comus, L'Allegro, and Il Penseroso, Burke's Speech on Conciliation with America, Macaulay's Essays on Milton and Addison.

The examination for credit in English readings will usually consist of



POULTRY PENS.

writing a paragraph or two on each of the several topics drawn from group I of the above list, or from the list given on page 115 of the catalogue, under the heading "English Readings." The treatment of the topics will be designed to show a general knowledge of the books read, and especially to test the candidate's power of clear and accurate expression. For credit in English classics the examination will be upon the subject-matter, form, and structure, and presupposes a thorough study of the books in group II above or in course 1 below. Especial attention is called to the fact that candidates are thus left free to offer for credit either the books in the lists named or to substitute others of equivalent literary value.

Each applicant for admission is advised to present from his instructor a detailed statement of the books read, the time covered by any course, and the grades attained, together with any exercise book he may have containing compositions or other written work done in his connection with his studies in English.

What other credits in preparatory or freshman English shall be given will be determined partly by the examinations described above and partly by other evidence the candidate may give that he understands the essentials of grammar and has a practical knowledge of the elements of composition. The aim will be to assign each student to that course which he is prepared to pursue with greatest profit.

All applications for credit in English should be presented at the beginning of the first term of attendance.

Of the studies described below, Nos. 1, 2, 3 and 4 are required in all courses; No. 5 is required in the agriculture and engineering courses; Nos. 6 and 7 are required in the domestic science and general science courses.

1. **English Classics.** First year, fall term. A careful study is made of a number of standard authors, English and American, of first-class interest and easy style. As far as possible, the selections are read and discussed in class. Character sketches, paraphrases, abstracts, outlines, and analyses, as well as biographical sketches of the authors, are regularly required. The students are given continual opportunity for studying and rendering the best thought in the best forms, and are at the same time encouraged to develop their own thought and powers of expression. The aim of the course is to afford practice in composition as well as a knowledge of the selections read.

Class Readings.—Shakspere's As You Like It, Pope's Homer's Iliad, Milton's Minor Poems, Addison's De Coverley Papers, Scott's Ivanhoe, Macaulay's Essay on Addison, Macaulay's Lays of Ancient Rome, Bunyan's Pilgrim's Progress.

2. **Advanced Composition.** First year, winter term. The work in this course is a continuation and extension of that begun in composition. Especial attention is given to precision in the choice of words, to correctness in the various forms of sentence structure, and to unity and coherence in both the sentence and paragraph. Constant practice is given in writing paragraphs and in the preparation of brief essays on familiar themes.

3. **Rhetoric I.** First year, spring term. A continuation of course 2. Further practice is given in paragraph writing. Description, narration and exposition are studied as distinct types of discourse, with constant practice in making outlines and writing themes illustrative of these types. So far as possible the student is trained in the habit of criticizing his own work.

4. **Rhetoric II.** Third year, fall, winter or spring term. Study of style and invention. Rhetorical analysis of masterpieces. Lectures on oratorical composition. Practice in the making and criticism of plans for argument and orations. Essays in exposition, argumentation, and persuasion, and briefs for debates.

5. **English Literature.** Fourth year, winter or spring term. A brief survey of the rise and development of English literature, with library study of typical authors. Lectures: The nature of literature; the nature of poetry; the periods of English literature. Class study and interpretation of masterpieces. Prerequisite, course 4.

6. **English Literature I.** Fourth year, fall or winter term. The history of the English language and literature. Lectures: What is literature? What is poetry? Elements of literary criticism; the beginnings of fiction; nature of the drama; the plays of Shakspere; the age of Scott, Burns, and Wordsworth; Tennyson and his relation to his age. The study of Shakspere, Thackeray and other great writers out of class, with reports and discussions. Classroom study and interpretation of masterpieces. Prequisite, course 4.

7. **English Literature II.** Fourth year, winter or spring term. A continuation of course 6. The study of Shakspere, Shelley, Thackeray, Burns, Browning, and other writers. Elements of Shaksperian criticism. Must be preceded by course 6.

ELECTIVE.

8. **American Literature.** Fourth year, spring term. A rapid survey of the rise and development of American authorship from colonial times to our own day. Study of the lives of representative men of letters. Seminary study of some of the great novels, essays, and longer poems. Classroom study and interpretation of some of the more difficult poems. Lectures. Must be preceded by course 4.

MAIN DRIVE.

Entomology, Zoology, and Geology.

It is not necessary to enlarge upon the importance of the studies in this department either to the student seeking general culture or to the specialist in agricultural lines. The fundamental facts of zoology underlie all appreciation of the special studies peculiar to our institution in animal biology, and are moreover essential to an understanding of the true relation subsisting between man and the creatures under his influence; while those of geology show the application of many principles of physics and biology to commonly observed but otherwise little understood phenomena daily before every one. In courses of study framed to meet the needs of the young in an essentially agricultural community, where most have come from the farms, and most must return to them, a study of the minute but important insect friends and foes of the cultivator is not only desirable but essential. The study of insects, however, offers, in addition, especial opportunity for the development of habits of discriminating observation that will be of value in any walk of life.

Of the studies here outlined, Nos. 1, 3 and 4 are required in the agriculture and general science courses; Nos. 1 and 3 in the domestic science course.

1. **Entomology.** Second year, fall, winter or spring term. In the work of this term the intention is to give the student a basis of intelligent appreciation of the important relations of the science to agriculture and horticulture. A brief view of structural types precedes an outline of insect classification, and a special study of the economic bearings of the subject completes the work. Illustrative material is furnished from the individual collections of the students and from the College museum. Charts, dissections and drawings from nature are used to illustrate points of value in classification. The pocket lens used in botany is required in this study. Text-book, Comstock's Manual for the Study of Insects, abridged.

2. **Advanced Entomology.** Fourth year, elective. Courses are offered in the following lines: (*a*) Review of the general subject, with the text-book, Comstock's Manual, extended. This study is desirable as preliminary to work in systematic or economic entomology. (*b*) Entomology methods, including field-work in observation and collection, laboratory work in preparation, dissection, and preservation, and in the study of life-histories, by the aid of the vivarium. (*c*) The independent and critical study of systematic entomology, the work in which may be restricted, when desired, to groups of special agricultural importance. (*d*) Economic entomology, so far as relates to the insects of field and garden, with a special study of methods of repression.

3. **Zoology.** Third year, winter or spring term; fourth year, fall term. This course is an introduction to the study of animals—their structure, functions, habits, origin, relationship, and classification. The student is first introduced to the simplest forms of animals, in which structure and functions are expressed in their simplest terms. From the consideration of these he passes in a natural manner to the study of higher and more complex forms, thus obtaining a knowledge of the gradual differentiation of structure and correlative specialization of functions so clearly illustrated by the study of types. Special attention is paid to animal ecology—*e. g.*, the relation of

animals to their environment, effects of climate, soil, etc.; parasitism, commercialism, symbiosis; natural and artificial selection; the interdependence of species, and the caution which must be observed in interference with these natural relations. The course should be preceded by organic chemistry and physiology.

4. **Geology.** Fourth year, fall or winter term. In this study attention is chiefly given to the subject of physical geology, with a brief view of the argument and basis of the historical phase of the science.

MEANS OF ILLUSTRATION.

The illustrative collections embrace ample series of specimens, including the College collection of rocks, the stratigraphical collection, and the collection illustrating phenomenal geology, all from the Ward establishment; the educational collection, from the United States Geological Survey; and a valuable series of rocks and rock-forming minerals, from the National Museum. To these are added numerous specimens, especially from Kansas localities; and a small but increasing representation of characteristic fossils is also open to the student.

The zoological museum, containing numerous representatives of the several classes, especially full in fishes and mollusks of Kansas and in illustrations in economic and systematic entomology. Increasing material in skins, alcoholic and anatomical preparations is available also for the use of the student.

LOVERS LANE.

German.

In whatever line the modern student turns his energies a practical knowledge of German is very useful, often indispensable. In literature, the arts, and the sciences, much of the newest and best work appears in German, so that he who would keep abreast of the times is forced to acquire at least the rudiments of that language. It is planned to have the work in this department as practical as possible without, however, excluding the growth in the pupils of a love for literature. The tendency toward introducing German classics into second- or even first-year courses is becoming too frequent; students who have "mastered" Faust are too often unable to make the most commonplace remarks in German or to read current German literature fluently.

Of the work described below, Nos. 1, 2 and 3 are required in all courses except agriculture (where they may be taken as a senior elective) and veterinary science, and Nos. 4, 5 and 6 are required in the general science and domestic science courses. The work must be taken in the order here given, the only exception being German VI, which may follow German III, but is best taken in its regular order.

1. **German I.** Second year, fall or winter term. After two recitations given to learning the sounds of the German letters, the pupil at once begins reading. Vocabularies are learned from the start. Grammar is learned gradually, with the reading lessons, in such a way as not to discourage the pupil. Oral and written work and simple conversational exercises begin with the first reading lesson. The present, perfect, preterit (past) and pluperfect (past-perfect) tenses of the indicative mood, active voice, are studied, as are also the inflections of the various kinds of pronouns and declensions of strong, weak and mixed nouns and adjectives. Frequent reviews are taken to enable the student to digest the facts presented. The abundant conversational and written work taken up serves the same end. Text, Becker's Elements of German (first twenty-six lessons).

2. **German II.** Second year, winter or spring term. Pupils are drilled on grammatical points already gone over in German I. The remainder of the more important points of grammar are studied, the remaining tones of the verb, both active and passive, reflexive verbs, modal auxiliaries, comparison of adjectives, etc. The general plan of the work is the same as in the preceding term. Essential facts of grammar are insisted upon, but German is taught as a living language. Conversations and written exercises are frequent. Text, Becker's Elements of German (completed).

3. **German III.** Second year, spring term. More stress is laid on translations into good idiomatic English than heretofore, and the passages read are of increased length. There is oral work on each exercise read, and occasional translations into German. Such selections are read as will give something of an insight into German manners and customs. A few of the most popular songs are studied. Some of the chief treasures of German mythology and saga are taken up, as well as extracts from German history. Whenever a tendency to drag is noticed, one of the anecdotes given in the appendix will be read. Text, Müller and Wenckebach's Glück Auf.

4. **German IV.** Third year, fall term. The student begins with very simple scientific reading. The material read concerns two or more of the following subjects: Chemistry, physics, geology, physiology, political economy, the steam-engine, the thermometer, the compass. Occasionally the exercise will be varied by translations into German. Text, Dippold's Scientific German Reader.

5. **German V.** Third year, winter term. The work is essentially the same as that of the fall term, but a greater amount will be read. Text, Dippold's Scientific German Reader.

6. **German VI.** Third year, spring term. The classes now return to literary readings. The delightful and not too difficult extracts here taken deal with German peasant life. In addition, one number of some German newspaper will probably be read during the term. Text, Rosegger's Waldheimat.

WOMEN'S GYMNASIUM.

History and Civics.

The department of history and civics offers three courses in the third and fourth years, arranged in consecutive terms and planned so as to make a logically continuous course. The modern European history includes the American history to 1776. Then the course in civics takes up the study of the articles of confederation and of the constitution. The third term is devoted to an advanced course in American history under the constitution. The constant aim is to make the work definite and practical, in keeping with the spirit of the school.

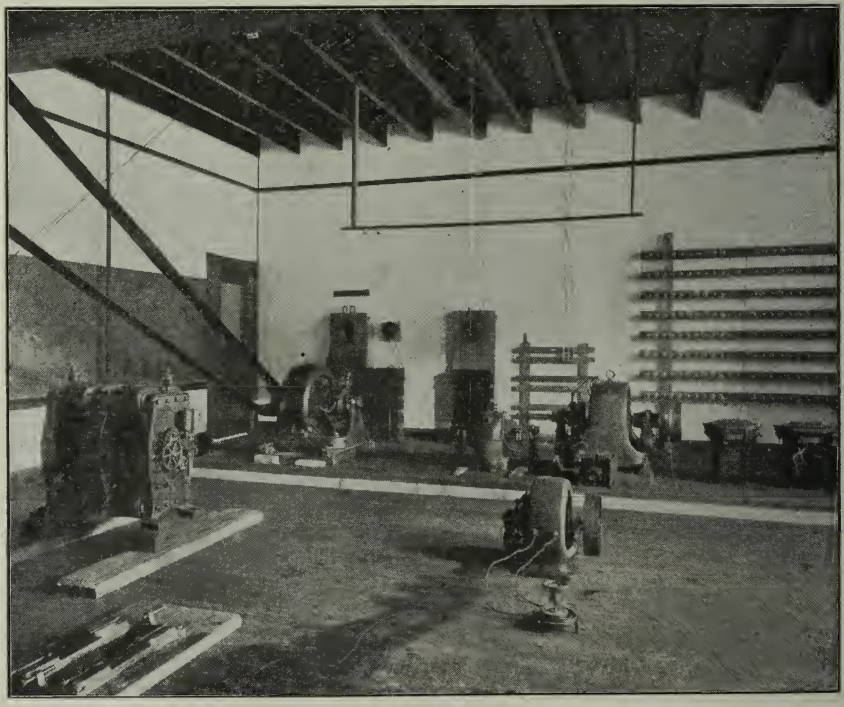
Nos. 1, 2 and 3 are required in all courses, and should be pursued in this order.

1. **European History.** This course covers the period since 1492. The following are among the subjects emphasized: The Protestant reformation and the later development in the history of the church; the thirty years' war, especially its causes and results; the second great series of wars between England and France, including the French and Indian wars, the American revolution, and the Napoleonic wars to 1815; the French revolution; the rise and fall of Spain; the growth of France and recent changes in her government; the creation of the German empire and of modern Italy; the heroic struggle of the Netherlands and the growth of Russia; the last century of European history, the chief facts in the present governments of the European nations, and their present international relations. Special attention is given to English history and her present government, for England's history includes that of her American colonies down to the war of American independence. Text-book, Schwill's History of Modern Europe.

2. **Civics.** This course is introduced by a brief study of the government of the colonies; the English government and the causes of the American revolution, in so far as these help to explain our present constitution; a careful study of the articles of confederation and the government under them; the constitutional convention and the adoption of the constitution. The work of this term is chiefly devoted to a systematic study of our national constitution and of the actual government under that instrument. Constant comparison is made with our own state government. Current events and incidents from history are used to illustrate the various points until the every-day affairs of our government are made clear and familiar. Comparison with other governments, especially with that of England, is made whereever this seems helpful. Selected cases from the United States supreme court reports are studied. A few lectures are given on the principles of international law and of commercial law. Text-book, Andrews's New Manual of the Constitution. References: Boyd's Cases; Hart's Actual Government; Cooley's Constitutional Law; Story on the Constitution; Bryce's American Commonwealth; the national and state statutes, etc. A Civics Guide-book, of questions and references, prepared by the department, is used by each student as an aid to the greater efficiency of the work in this course.

3. **American History.** This is an advanced course in the history of the United States under the constitution. It is introduced by a review of those events and conditions in preceding history, especially from the period of the French and Indian war to the adoption of the constitution, that directly help

to a clearer and fuller understanding of the constitutional period. The brevity of the course requires judicious selection of the points to be emphasized, and the following lines of our national history are especially studied: The establishment of the nation and the organization and functions of the various departments of its government; the important presidential elections; Hamilton's financial measures, taxation, banks, internal improvements; history of political parties, their issues, and their leaders; foreign relations and their connecting links between Europe and America, as in the Monroe doctrine; the slavery question—compromises, the laws and the constitution; nullification and secession throughout our history; annexation and government of territories; national boundaries; the growth and development of the West, with a study of its influence on our national character and history; the early Kansas struggle; civil war, reconstruction, and the new nation. The whole course involves a study of the practical application of our constitution in operation, and should be preceded by the course in civics. Channings' Student's History of the United States is used as a text-book; but this is primarily a library course and each student uses an American History Note-book of topics and references, prepared by the department, as an aid to larger and more thorough work in the term devoted to this subject.



ELECTRIC ENGINEERING LABORATORY.

Horticulture.

It is the object of the department to give such instruction and practice as will enable students to become acquainted with the general principles of plant culture and the practical applications of these principles. The work is planned to give them such knowledge of horticulture as will best help to increase the capacity of the student for the enjoyment of outdoor life and work with plants and to enable them to increase the comforts, beauties and profits of life on the farm.

No. 1 is required in the agriculture, domestic science and general science courses; Nos. 2 and 3 in the agriculture course; and No. 4 in the domestic science course.

1. **Horticulture.** Second year, winter or spring term; third year, fall term. The work of this term presents the principles of the art, introducing the facts underlying the methods of general practice in nursery, orchard and garden work. The text-book, Goff's Principles of Plant Culture, is supplemented by lectures which are intended to adapt the general principles to the particular conditions which the student is likely to meet. The planning and planting of windbreaks, groves, orchards, and gardens, with notes as to species and varieties adapted to various conditions, form the subject-matter of the lectures.

Laboratory.—This includes work in testing and planting seeds; the construction and care of cold-frames and hotbeds; spring pruning; setting trees and plants; the use of garden tools and spraying apparatus.

2. **Horticultural Laboratory.** Third year, fall term. The work consists of the fall work in pruning and protecting trees, shrubs, and vines; the collecting and handling of seeds; indoor methods of propagation, including the making and storing of grafts and cuttings.

3. **Vegetable-gardening.** Third year, spring term. The work of this term is given by lectures, and is devoted to methods of field operations, with special attention to seasonable practice, including the use of manures, the application of fungicides and insecticides, the means of securing and maintaining sanitary conditions, and a detailed study of varieties, with reference to their adaptation to local conditions.

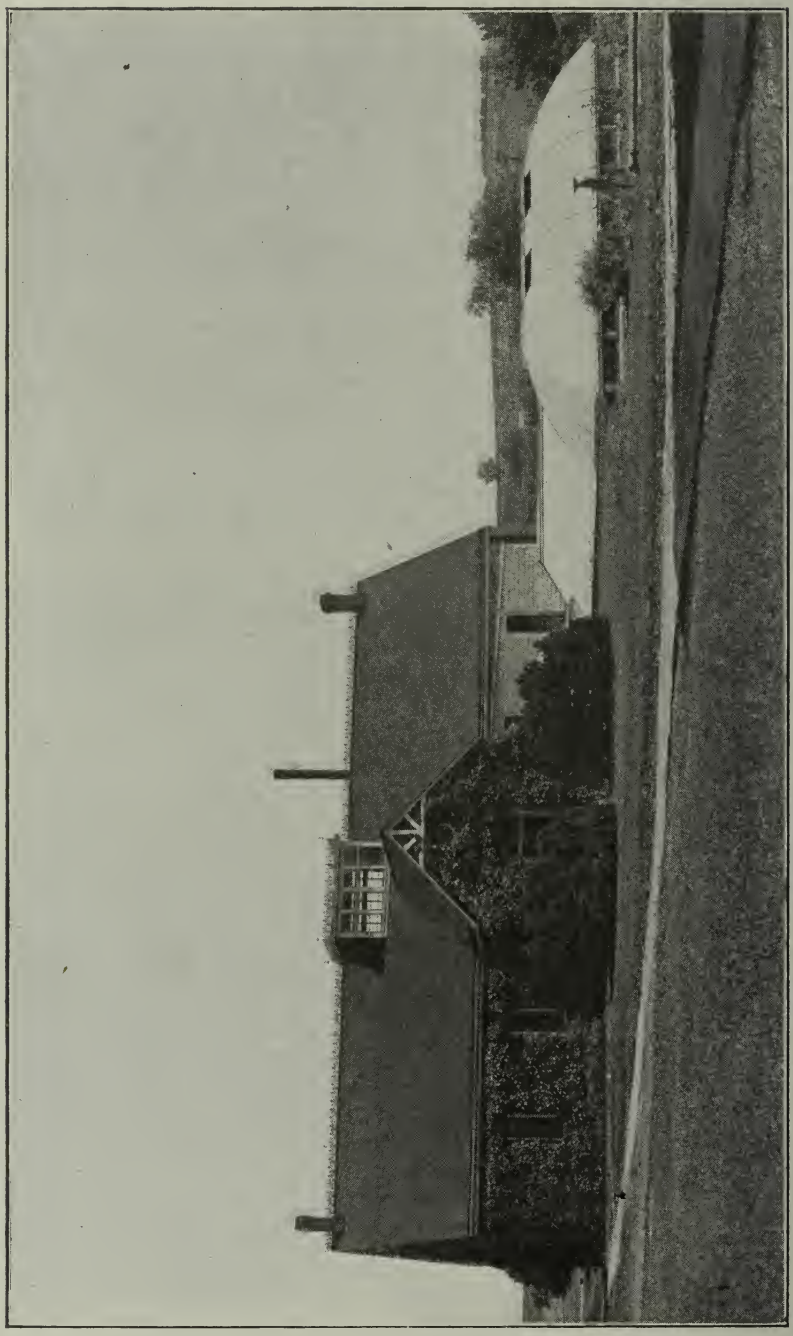
4. **Floriculture.** Second year, winter term. This consists of laboratory work in propagating, potting and caring for plants, window-gardening, seed-sowing, and transplanting seedlings. Opportunity is furnished the student to become familiar with the various window and greenhouse plants.

Students who choose their electives along horticulture lines are offered:

ELECTIVES.

5. **Pomology.** Fourth year, fall term. The work of this term comprises a careful study of the classification of fruits; a systematic study of varieties; the means of identification; their variation in plant and fruit under different conditions of soil and culture; and their botany and history. Waugh's Pomology is used as a text, and work with fruits is made a part of the course.

6. **Forestry.** Fourth year, winter term. The work of this term presents the general principles and methods of forestry, dealing with the re-



HORTICULTURAL HALL.

lations of forests to public welfare, and the means of regulating and preserving forests. Gifford's Practical Forestry forms the basis of the term's work, supplemented by lectures upon tree-planting for the farm, care of wood-lots, windbreaks, post planting, etc.

7. **Ornamental Gardening.** Fourth year, spring term. The principles of this art are studied in relation to their application to the planning and planting of home grounds, streets, parks, and cemeteries. The value of the various trees, shrubs, annual and perennial herbaceous plants for securing desired effects are taken up in detail, with special reference to their use under differing climatic and soil conditions. Graduate students or those electing more than a single term's work in this subject study in fuller detail the foregoing topics and also the propagation, training and general culture of the various plants.

The increasing interest in the preservation and increase of forest areas has created a demand for more extended information concerning forest work and methods. The plantations of the College, standing as they do in different soils and situations, offer material for comparison with native growths. The nursery offers opportunity for experience and observation in methods of propagation and transplanting and the formation of new plantings.

Graduate students are offered the following:

8. **Drendrology.** Lectures: The characters of trees; their habits of growth as influenced by local conditions; distribution of the different species; special study of the native species; flower, leaf and seed characters; methods of propagation..

Laboratory.—Nursery practice; planting, thinning and pruning of plantations; pruning and care of shade and ornamental trees.

9. **Forest Technology.** Text, Boulger's Wood. Structure and growth of woods; their classification according to structure and economic uses.

Laboratory.—Gathering and storing of seeds; fall and winter planting; special treatment to insure germination, etc.

10. **Silviculture.** Lectures and references. Life-history, laws of growth and requirements of forest; forest characteristics; trees important in forestry and to farm plantings; relation of forestry to national economy.

Laboratory.—Forest mensuration. Determinations of volume, height, and stand, and the determination of the volume, height and stand increments. Stem analysis, valuation surveys, etc.

11. **Forest Management.** Plans and plantings of forests; their cultivation, care, and protection; plantings for definite purposes—to prevent erosions, protection from wind, to fix shifting sand, to regulate floods, for the utilization of worthless areas; harvesting, utilization, etc.

MEANS OF ILLUSTRATION.

Orchards comprising seventy-five varieties of apples, forty of plums, thirty of peach, fifteen of cherries; plantations of native fruits; small-fruit plantations containing many varieties; vineyards containing 175 varieties, and six forms of trellises; a large collection in the arboretum and on the grounds of shrubs and timber, shade and ornamental trees; about thirty acres of forest plantings; fifteen acres of nursery and garden; a large collection of native and foreign plants in greenhouses; a collection containing 200 models of fruit; a grape herbarium containing leaves, canes, seeds and photographs of the fruit of 175 varieties of grapes; collections and specimens of woods; herbarium of fungous diseases, and numerous charts. The general library and the department library furnish ample opportunity for research work in various lines.

JUDGING APPLES.

Mathematics.

It is the aim of the department of mathematics to give a thorough training in a small number of subjects, and to develop in the student the ability to attack new problems successfully rather than to burden his mind with a large number of facts and special methods. It is also characteristic of the methods of the department that an attempt is made to give the mathematical subject a touch of human interest by directing the attention of the student to the historical development of these topics. The statement following contains a brief description of the courses to be given.

Nos. 1 to 8 are required in the engineering courses, and Nos. 9 and 10 in the mechanical and electrical courses, respectively; Nos. 1 to 5 in agriculture and general science courses, and Nos. 1 to 3 in domestic science.

1. **Geometry I.** First year, fall term. Text-book, Gore. First, second and third books, with exercises for original demonstrations.

2. **Geometry II.** First year, winter term. Continuation of course 1. Fourth, fifth, sixth, seventh and eighth books, treated as before, with special attention to original work.

3. **Algebra IV.** First year, spring term. Text-book, Wells's New Higher Algebra. Binomial theorem, undetermined coefficients, logarithms, and general theory of equations.

4. **Trigonometry.** Second year, fall term. Text-book, Wentworth. Solution of plane triangles, essentials of goniometry, applications to surveying and navigation.

5. **Surveying.** Second year, fall term. Field-work two hours per week. Use and adjustment of instruments, chaining, leveling, and land surveying.

6. **Analytical Geometry.** Second year, spring term. Text-book, Wentworth. Rectangular and polar coordinates; the straight line, circle, parabola, ellipse, hyperbola, and the general equation of the second degree.

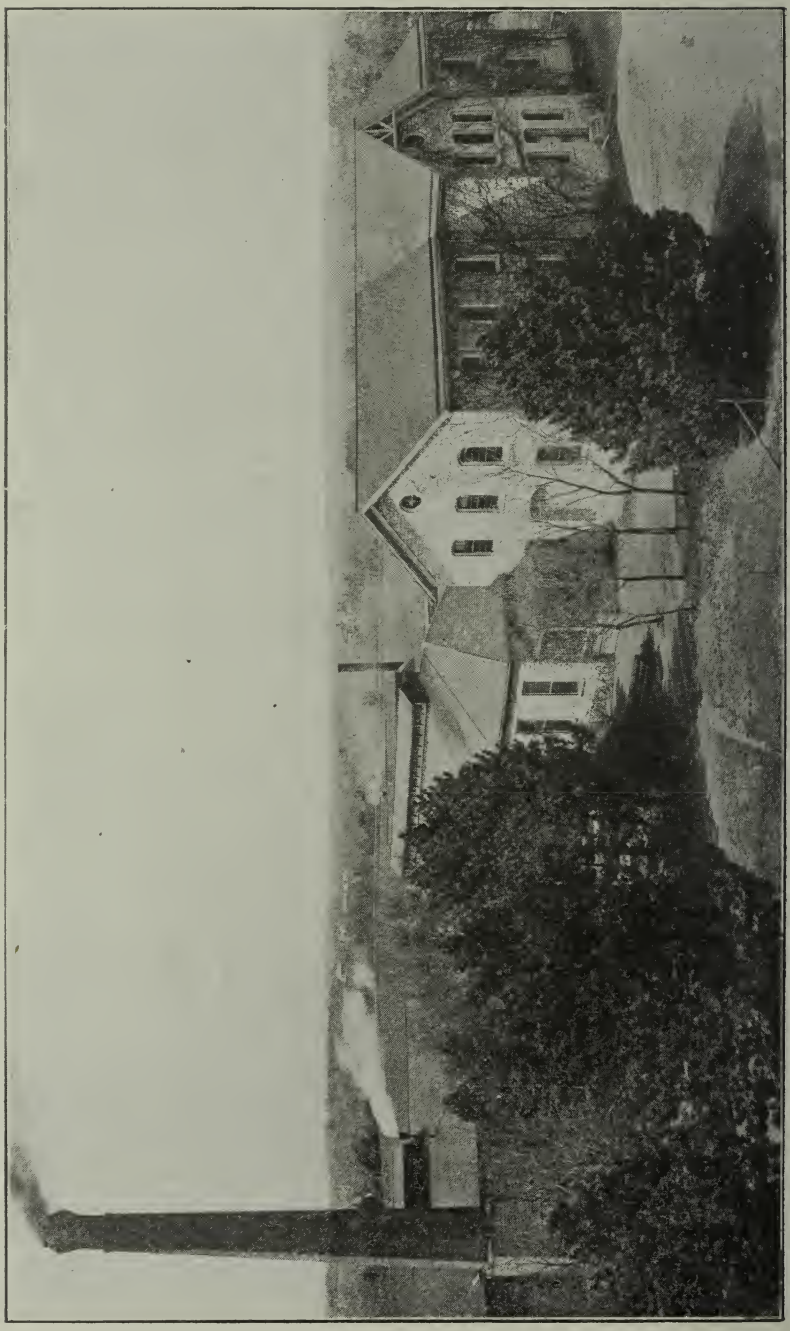
7. **Differential Calculus.** Third year, fall term. Text-book, Osborne. The various methods of differentiation, with the usual applications.

8. **Integral Calculus.** Third year, winter term. Same text. Integrations, with applications to curves and surfaces.

9. **Definite Integrals.** Third year, spring term. Integration between limits. Lectures on the theory of the subject, with applications to practical problems.

10. **Differential Equations.** Third year, spring term. Lectures on the theory of the subject, with solutions of examples of the various types.

In addition to the above, courses in theory of equations, advanced calculus, theory of functions or other branches of higher mathematics may be offered to graduate students, or to undergraduates who are able to carry extra work.



MECHANICS' HALL.

Mechanical Engineering.

The subjects in this course are adapted primarily to the needs of the students in mechanical engineering, but a few subjects are introduced to meet the requirements of the other courses. The subjects are so arranged that the student first learns the principles upon which the action of a mechanism depends in the classroom, and afterwards studies the action of the same mechanism in the laboratories and shops.

In the mechanical engineering course, all numbers below are required but 26 and 34.

In the agriculture and general science courses, Nos. 1, 2 and 3 are required.

In the electrical engineering course, all the subjects in the first and second years are required. In the third and fourth years, Nos. 11, 12, 13, 14, 15, 16, 26, 29, 34, 35 and 37 are required.

1. **Woodwork I.** First year, fall term. A graded set of problems in joining is given, together with practice in working to dimensions, and the proper use and care of bench tools. Tools required: Two-foot pocket folding rule.

2. **Woodwork II.** First year, winter term. This work is a continuation of that given under woodwork I.

3. **Blacksmithing I.** First year, spring term. A graded set of problems designed to teach the operations of drawing, upsetting, welding, and forming, accompanied with instruction in the care of fires and the behavior of iron at different heats.

4. **Shop Lectures I.** Second year, fall term. Lectures of this term are on the structure and properties of the various structural materials. In all shop-lecture courses the students are required to hand in from time to time well-written notes on the subjects discussed in the lectures. These notes are to be written in ink in a book $8 \times 10\frac{1}{2}$, preferably one with loose leaves.

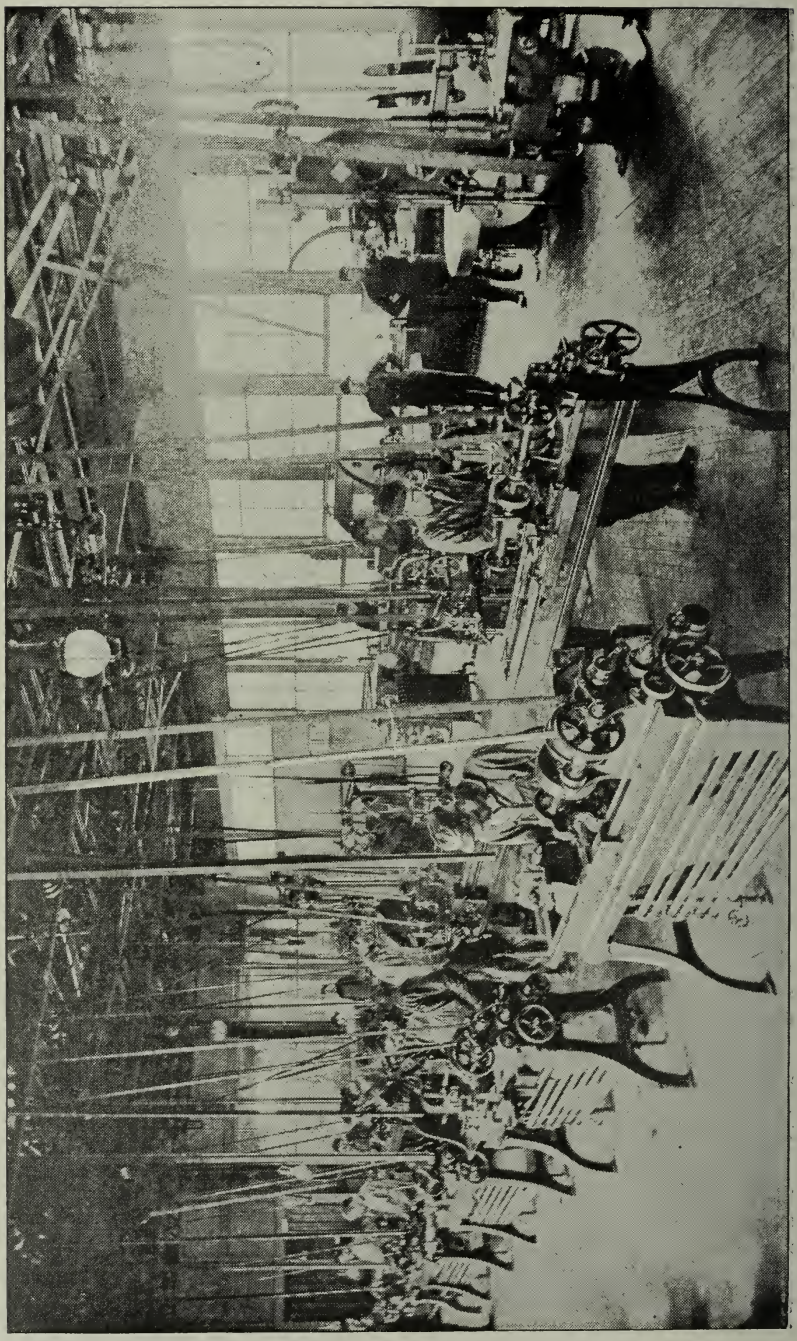
5. **Blacksmithing II.** Second year, fall term. Advanced work in the forging of iron and the manufacture of steel tools. Instruction is given in tempering, case-hardening, and annealing. Tools required: Two-foot rule, one pair of five-inch outside calipers.

6. **Kinematics of Machinery.** Second year, winter term. An elementary course in mechanisms, particularly the principles involved in the construction of gears, cams, and quick return motions. Preparation required: Trigonometry. Text-book, Schwamb and Merril's Treatise on Mechanism.

7. **Foundry.** Second year, winter term. Foundry practice is given in both floor and bench molding, including the making of cores, brass and iron castings, and the mixture of special alloys. Cupola practice and the making of machine castings for shop use are included.

8. **Shop Lectures II.** Second year, spring term. Lectures of the first half of this term are selected to accompany the work in pattern-making. The second half of the term is given to lectures on the construction, care and use of machine tools. Preparation required: Foundry and shop lectures I.

9. **Mechanical Drawing I.** Second year, spring term. Exercises in lettering, shading, and the drawing of simple mechanisms. Each student is expected to provide himself with the following drafting supplies: Triangles,



MACHINE SHOPS.

T square, scale, pencils, pens, ink, erasers, thumb-tacks, and drawing instruments. It is desired, however, that the supplies be not purchased until after consultation with the instructor in charge of the work.

10. **Pattern-making.** Second year, spring term. This term's work includes wood-turning and pattern-making. Each student is required to turn several specimens and make various patterns. Tools required: One two-foot rule, one pair three-inch dividers, one pair five-inch outside calipers, one pair five-inch inside calipers, one six-inch scale.

11. **Mechanics.** Third year, fall term. A course in elementary mechanics, including the laws of motion, force, work, and energy, together with the composition and resolution of forces. Preparation required: Trigonometry and kinematics of machinery. Text-book, Dana's Elementary Mechanics.

12. **Shop Lectures III.** Third year, fall term. Lectures are given on shop methods, duplication of work, etc. Preparation required: Shop lectures II.

13. **Mechanical Drawing II.** Third year, fall term. The design of cams, gears, and quick return motions. Preparation required: Mechanics and mechanical drawing I.

14. **Machine-shop I.** Third year, fall term. Practice in chipping, filing, scraping, and laying out work from drawings. Tools required: A six-inch scale, a four and one-half to six-inch square. Students are advised to purchase a combination square.

15. **Mechanical Drawing III.** Third year, winter term. A continuation of mechanical drawing II, and practice in machine drawing.

16. **Machine-shop II.** Third year, winter term. Instruction in lathe work, gear-cutting, boring, and drilling. Tools required: One two-foot rule, one six-inch scale, one pair three-inch dividers, one pair five-inch outside calipers, one pair five-inch inside calipers, one center gage, one center drill.

17. **Valve Gears.** Third year, spring term. A study of the design, construction and operation of the valve gears and linkages of steam- and other engines. Preparation required: Mechanics and differential calculus. Text-book, Peabody's Valve Gears for Steam-engines.

18. **Shop Lectures IV.** Third year, spring term. Lectures on the selection, arrangement and organization of manufacturing plants; cost, accounting, etc. Preparation required: Shop lectures III.

19. **Mechanical Drawing IV.** Third year, spring term. A continuation of the previous term's work.

20. **Machine-shop III.** Third year, spring term. Advanced work on lathes, planers, and milling-machines, including tool-making.

21. **Machine-shop IIIa.** A course similar to 20, but occupying one-half the time.

22. **Steam-boilers.** Fourth year, fall term. A study of the construction, erection and operation of steam-boilers and appliances, including the study of tools. Preparation required: Valve gears and integral calculus. Text-book, Peabody and Miller's Steam-boilers.

23. **Graphic Statics.** Fourth year, fall term. The graphic solution of the problems arising in the construction of roofs, bridges, and other framed structures. This subject is taught by means of lectures and drawing exercises. Preparation required: Mechanics and mechanical drawing IV.

24. **Shop Lectures V.** Fourth year, fall term. Lectures on the transmission of power by electricity, including a course of instruction in the construction, care and operation of electrical machines most likely to be met with in practice by mechanical engineers. Preparation required: Shop lectures IV and valve gears.

25. **Engineering Laboratory I.** Fourth year, fall term. Experiments in valve setting, efficiency of hoists, gage and planimeter tests, etc. Preparation required: Third-year mechanics and steam-boilers. Text-book, Smart's Laboratory Practice.

26. **Mechanical Drawing V.** Fourth year, fall term. The design of the valve motions and reciprocating parts of the steam-engine, and work in drawing-room based on the classroom work in valve gears.

27. **Mechanical Drawing VIII.** Fourth year, fall term. This work is given the electrical engineers only, and consists of exercises in machine drawing, etc.

28. **Machine-shop IV.** Fourth year, fall term. The time of this term is devoted to the building of a small machine or making the parts of a large one.

29. **Thermodynamics I.** Fourth year, winter term. A study of the thermodynamic principles of perfect gases, saturated and superheated vapors, and the theory of injectors. Preparation required: Steam-boilers and definite integration. Text-book, Peabody's Thermodynamics of the Steam-engine and Peabody's Steam Tables.

30. **Applied Mechanics I.** Fourth year, winter term. The application of the principles of theoretical mechanics to problems arising in practice. Preparation required: Graphic statics and definite integration. Text-book, Goodman's Mechanics Applied to Engineering.

31. **Shop Lectures VI.** Fourth year, winter term. Lectures on the design, construction and operation of steam-turbines. Preparation required: Thermodynamics I.

32. **Engineering Laboratory II.** Fourth year, winter term. A continuation of the previous term's work, with practice in running steam-engine and air-compressor tests. Preparation required: Engineering laboratory I.

33. **Mechanical Drawing VI.** Fourth year, winter term. The design of a complete machine, engine, or boiler; an application of the principles studied in thermodynamics and applied mechanics. Preparation required: Mechanical drawing V and steam-boilers.

34. **Machine-shop V.** Fourth year, winter term. A continuation of the previous term's work.

35. **Engineering Laboratory IV.** Fourth year, winter term. A course in testing the strength of materials and steam-engines, for electrical engineering students.

36. **Applied Mechanics II.** Fourth year, spring term. A continuation of the work of the previous term, including a study of the strength of materials and the design of structural members. Preparation required: Applied mechanics I. Text-book, Goodman's Mechanics Applied to Engineering.

37. **Thermodynamics II.** Fourth year, spring term. A continuation of the work of the previous term, including the thermodynamics of gas-engines and air-compressors. Preparation required: Thermodynamics I. Text-book, Peabody's Thermodynamics of the Steam-engine.

38. **Hydraulics.** Fourth year, spring term. This term's work includes a study of the principles of hydrostatics and the action of water-motors. Preparation required: Third year mechanics and definite integration. Text-book, Merriman's Treatise on Hydraulics.

39. **Shop Lectures VII.** Lectures on the design, construction and operation of steam and hydraulic power plants.

40. **Mechanical Drawing VII.** Fourth year, spring term. A continuation of the previous term's work.

41. **Engineering Laboratory III.** Fourth year, spring term. A continuation of the previous term's work, including tests on the strength of materials and tests on gas-engines. Preparation required: Applied mechanics I and thermodynamics I.

42. **Thesis.** Fourth year, winter and spring terms. Engineering students are required to present for graduation a suitable thesis on some subject relating to their work. It is expected that the work done on the thesis will be equivalent to at least five hours per week during the winter term and ten hours per week during the spring term.

EQUIPMENT.

The shops of the Kansas State Agricultural College are furnished with the best modern machinery and tools for working both wood and iron, and are in operation six days per week throughout the year.

Wood Shop.—This wood-working room is 40x103 feet, contains 220 separate kits of tools, and benches for forty-four students in each class, eight wood lathes, with sixteen sets of turning chisels and other tools, wood planer, circular saw, friezer, power mortising-machine, grinders, and tool-room containing all kinds of wood-working tools for general use, together with complete outfit of wheelwright's tools.

Machine-shop.—This room is 40x80 feet, contains twelve fourteen-inch engine-lathes, one twenty-eight-inch by twenty-foot engine-lathe equipped with blocks to raise it to sixty-inch swing, one sixteen-inch combination engine- and turret-lathe, speed-lathe, Gray planer, Hendey-Norton shaper, Brown & Sharpe No. 2 universal milling-machine, Walker universal grinder, special drill-grinder, key-seater, bolt-cutter, pipe-machine, vertical drills, fifty-one-inch vertical turning- and boring-mill, benches and tools for fifty students, and a completely stocked tool-room, equipped with the finest modern tools.

Blacksmith Shop.—This room is 40x50 feet, equipped with twenty-four forges fitted with power exhaust. Each forge has anvil and complete set of smithing tools. In addition to the general tools for a fully equipped blacksmith shop, there are also installed here a drill-press, emery-grinders, cold saws, and a number of pieces of special apparatus built by the department.

Iron Foundry.—This room is 40x50 feet, equipped with a two-ton cupola, a one-and-one-half-ton steel crane, core oven, an exceptionally large number of flasks, both wood and iron, ladles, etc. The foundry makes all castings for machine building, together with boiler fronts, grate-bars, and special repair work.

Brass Foundry.—This room is 16x30 feet, with furnace, crucibles, flasks, and a complete equipment for bench and floor molding. The product consists of bearings, friction metal, valves, fittings, etc.

Pipe-fitting Room.—This room is 18x50 feet, containing a motor-driven Jarecki pipe-machine, and is completely equipped with tools used by steam-fitters. Practice in pipe-fitting and steam-fitting is given. The room is also used for storing patterns, of which the College has a large and valuable collection.

Engineering Laboratory.—This room is 35x40 feet, and contains a great variety of apparatus, among which may be specified a 100,000-pound testing-machine, both automatic and autographic; an eight-horse-power vertical steam-engine; an eight-by-eight Ingersoll-Sargeant air-compressor; a six-horse-power Sturtevant engine, used as an air-motor; a ten-horse-power Witte gasoline-engine; a six-horse-power Dempster gasoline-engine; complete cement-testing outfit; absorption and transmission dynamometers; steam- and gas-engine indicators, gage-testing apparatus, and a variety of special machines for the testing of material; also, thermometers, calorimeters, speed indicators, etc. The very complete boiler- and engine-rooms adjoining the laboratory afford special opportunities for the work relating to steam engineering. Yards and sheds have been provided for carrying on tests that cannot be made in the laboratory. The department has a twenty-horse-power Avery traction-engine that is fitted up to run boiler, engine and traction tests. There has been installed a Miles concrete-block machine. The cement blocks made in this machine will be tested under various conditions of mixtures, age, etc. Tests will also be made to determine the effects of fire on building blocks.

Power Plant.—The boiler-room contains five sixty-horse-power horizontal, return-flue boilers, three 100-horse-power boilers, pumps, steam-traps, etc. These boilers are used for the generation of steam, both for power and heating purposes, and are independently connected, that they may be tested individually or in groups. The engine-room is equipped with a 100-horse-power, medium-speed engine, directly connected to a 60 K. W. multipolar generator, with marble switch-board and complete apparatus; one fifty-horse-power Ball & Wood engine, belted to bipolar generator, with switch-board; one ten-horse-power Atlas engine; one five-horse-power generator, built in the shop, for testing purposes; one Shipman coal-oil engine, and several small dynamos for testing purposes. In connection with the power plant is a very complete rope-driven installation, especially designed for the department.

Drawing-rooms.—On the second floor of the wood-working department are found the drawing-rooms, photographic rooms, and paint and varnish rooms.

Military Training.

This institution being one of the beneficiaries of the act of Congress of 1862, instruction in military tactics is made compulsory. The course of instruction is made to conform strictly to the provisions of General Orders No. 101, War Department, 1905.

In compliance with the requirements of that order, the course will be both practical and theoretical, and applied as follows:

a.—Practical.

1.—Infantry drill regulations, through the school of the battalion, in close and extended order.
2.—Advance- and rear-guards and outposts.
3.—Marches.
4.—The ceremonies of battalion review, inspection, parades, and guard-mounting.
5.—Infantry target practice.
6.—Instruction on first aid to the injured.

b.—Theoretical.

1.—The infantry drill regulations, covered by the practical instruction.
2.—The manual of guard duty.
3.—Small-arms firing regulations.
4.—Field-service regulations.
5.—The Articles of War, with specific reference to articles 4, 8, 15, 20, 21, 22, 23, 24, 32, 38, 39, 40, 42, 44, 46, 47, 50, 55, 57, 61, and 65.
6.—Lectures.

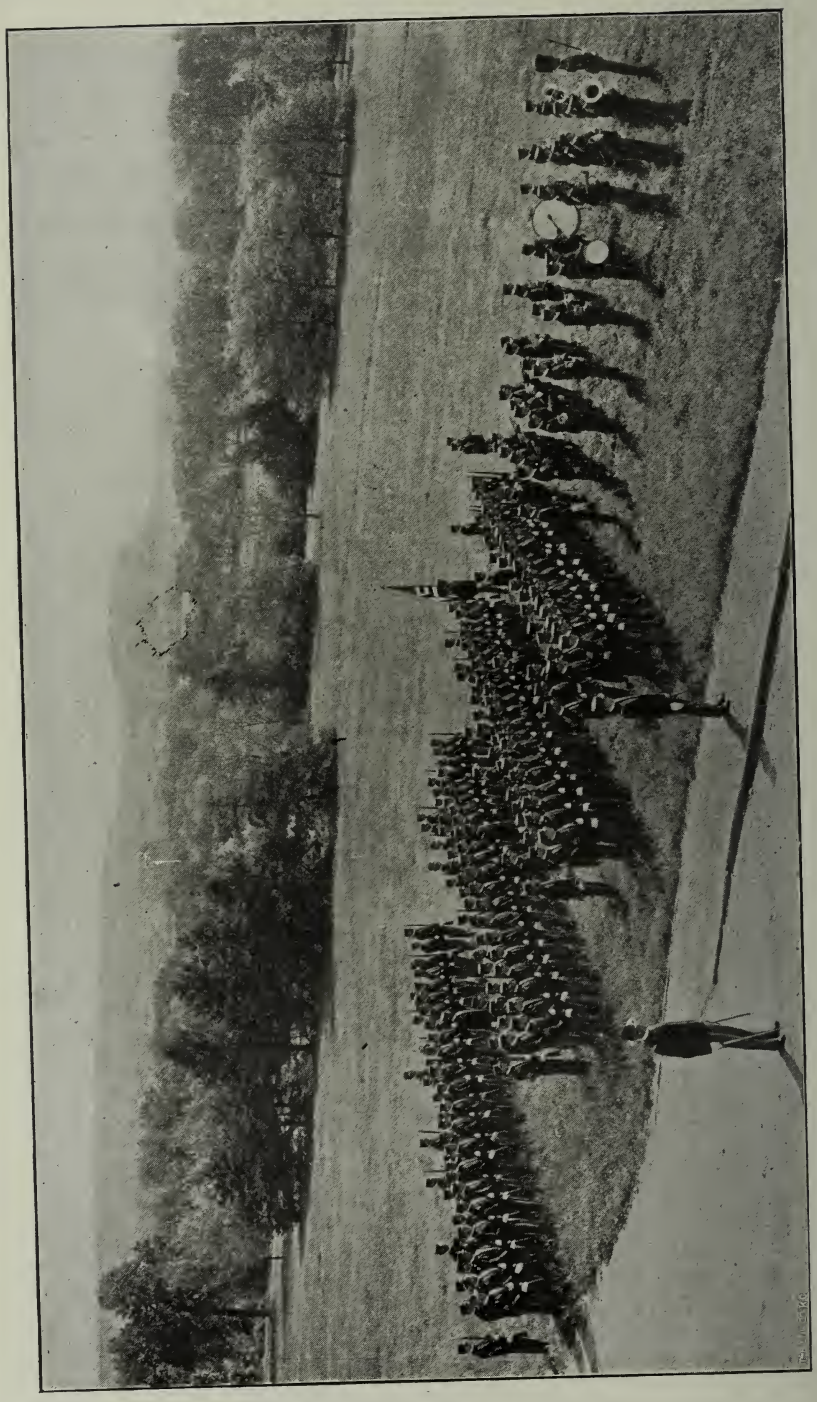
The national government has supplied the College with 395 cadet rifles and an equal number of sets of infantry accouterments; also two three-inch field-guns and carriages. Swords, target supplies and annual issues of ball and blank cartridges are also received from the general government.

Organization. Cadets are organized into a battalion of infantry and a band, the drill and administration of which shall conform to that of the United States army. Officers and non-commissioned officers are selected by the professor of military science and tactics, with the approval of the President, according to the principles governing such selection at the United States Military Academy, and receive commissions and warrants from the President of the College.

Discipline. Each cadet is furnished with a copy of the cadet regulations governing the military department, approved by the Board of Regents, and is required to familiarize himself with them and to conform strictly to their requirements.

Band. Assignments to the band are made by the professor of music, who is charged with the technical instruction. Practice in the band is accredited, through the military department, in lieu of drill and theoretical instruction, subject to the provisions of the cadet regulations, with which strict conformity is required.

The purpose of the cadet band is to foster and encourage among the cadets a love for patriotic national airs and martial music.



COLLEGE BATTALION AND BAND.

Requirements. All young men are required satisfactorily to complete six terms' work before graduation, unless excused for physical disability. Drill periods scheduled in the course of study refer to full hours of sixty minutes each. Additional work is optional with juniors and seniors, who are given preference for appointment as officers. A junior or senior having enrolled optionally and accepted a commission is required to continue the work throughout the college year, subject to the same regulations as other cadets.

Uniform. The uniform conforms to the West Point cadet pattern. Blouse must be of good quality cadet-gray cloth, trimmed with best quality black mohair braid one and one-half inches wide, collar not less than two inches high, with half-inch gilt metal letters K. S. A. C.; insignia of rank to conform to that of the United States infantry; trousers, good quality cadet-gray doeskin, with black cloth stripe of army regulation width to denote rank; cap, West Point cadet pattern, with College emblem.

Trimmings of band uniforms are modified as authorized for bands in the United States army.

The commandant of cadets furnishes specifications to all authorized dealers in uniforms, and uniforms must conform to such specifications.

All military students are required to provide themselves with uniforms within two weeks after assignment. The uniform can be purchased at a reasonable price, after enrolment, and makes a good serviceable suit for regular College wear.

Text-books. Each military student will be required to provide himself with the following text-books: United States Drill Regulations (latest edition), The Manual of Guard Duty (latest edition), Small-arms Firing Regulations (latest edition), Field-service Regulations.

The instruction in keeping records will be from blank books provided by the War Department.

War Department Record. At the close of the year the names of the three cadets most distinguished in military science and tactics are reported to the War Department for insertion in the United States army register, and also to the adjutant-general of the state.

Music.

Recognizing music as a factor in education which is practical and elevating, and believing that the germ of artistic faculty exists in every normal person, the following generous provisions have been made for its introduction into the several courses:

Pupils may take music for a single term or more. A full course, extending over four years, includes theory, notation, singing, voice culture, harmony, composition, instrumentation, and technical drill on one or more instruments. The College pianos and organs (limited in number) are used for daily practice by pupils who take music as an industrial.

Instruction in music is furnished free, under the direction of the professor in charge, to all pupils in the College, as follows:

1. **Notation and Theory.** Classes will be organized at such periods as will best accommodate the pupils interested.

COLLEGE BAND.

2. **Instrumental Music, Musical Theory, and Harmony.** Classes will be organized, for pupils in the regular courses, at such periods as will best accommodate them, under the following conditions:

a. **Optional.** All music is optional—is taken at the choice of the student—but after assignment regular attendance is required, as at other classes. Class organization shall be wholly under the control of the professor of music.

b. **Musical Organizations.** Each instrument has a distinct function in the science of tonal expression, and only in their combination are the finest effects in the coloring of the melody, harmony and rhythm procured. This combination is made possible in the musical department by the number of pupils and the variety of instruments studied. All students who are sufficiently advanced to join the College choral union, College glee club, College orchestra, elementary band, or the College band, may become members by assignment.

c. **College Band.** Assignments are made for the entire year, and membership requires regular attendance until after commencement exercises.

Uniforms.— (See description under "Military Training," above.)

d. **Public Exercises.** Music for commencement week and other public College exercises is furnished by the musical department, under the direction of the professor in charge, and all students in the department shall be subject to his call to assist in furnishing the same.

e. **Annual Concert.** An annual concert will be given on the second Thursday in March.

COURSES OFFERED.

The Voice. In the study of this instrument, the most natural and universal means of musical expression, notation is taught in connection with the establishment of a pure tone, in which there shall be resonance, volume, flexibility, and expression. The instruction will include the rudiments of music, notation, sight-reading, ear-training, theory, harmony, voice culture, methods of teaching, practice in teaching, and drill in solo, quartet and chorus singing. Texts: Randegger's Singing; select studies from Concone, Vaccai, Bordogni, Marchesi, Emery's Elements of Harmony, Weitzman's Theory, and other standard works.

The Piano. In the study of this instrument, which occupies a place of so much dignity and importance in every musical education, great attention is given to every detail of technique and to the development of a correct touch, which is so necessary in giving expression to musical thought and feeling. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. The curriculum is chosen from the works of the standard composers, not omitting modern European and American writers, who best represent the modern spirit and progress. The following outline of a course of study, made with reference to the musical value of the selections, as well as to the special necessities of the pupils, may be followed or varied by the professor in charge. Text, selections from the following works or their equivalents: Studies in position and touch—Plaidy, Czerny, Koehler, Mathew's Standard Studies; Mason's Touch and Technic; sonatinas by Clementi; modern pieces. Studies in the develop-

GLEE CLUB.

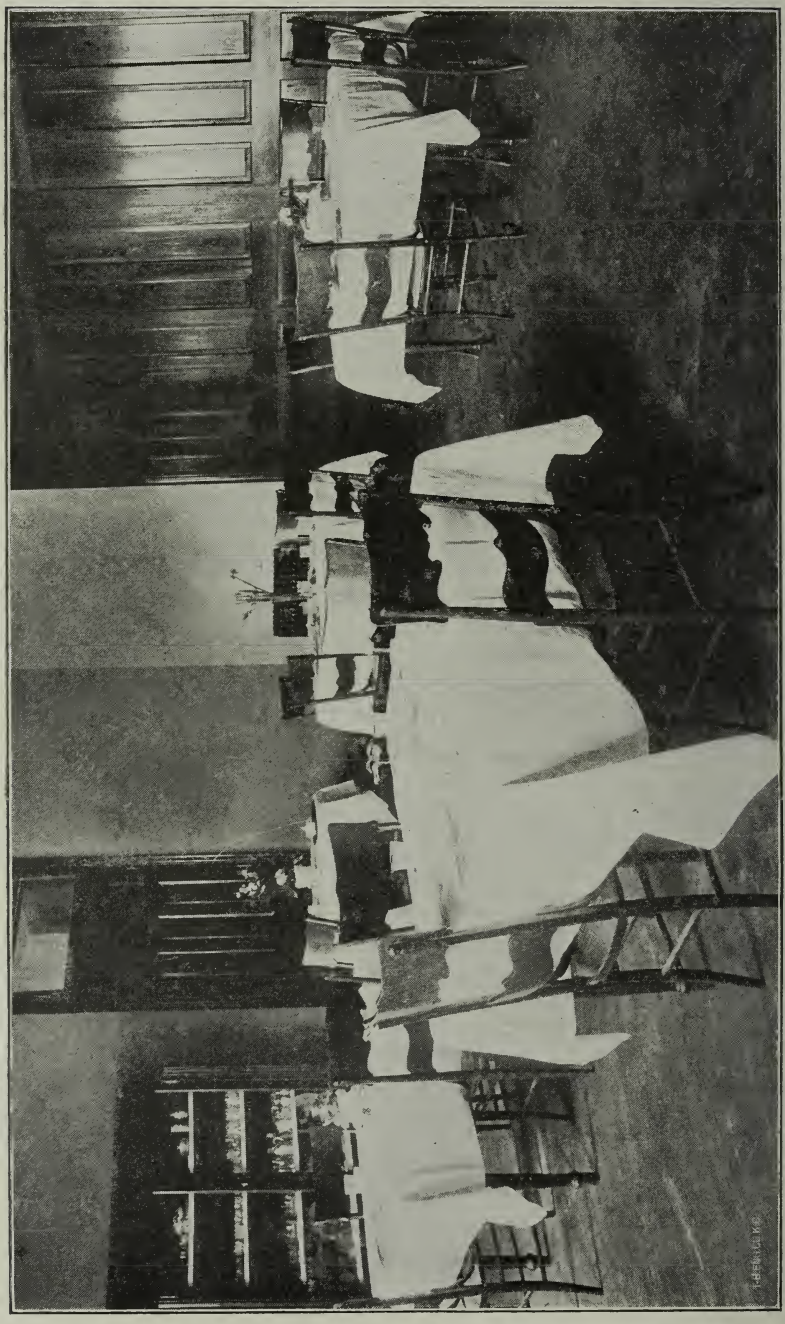
ment of technic from Heller, Loeschorn, Lemoine; sonatinas by Kuhlau; Mason's Touch and Technic; Cramer's Studies; inventions by Bach; Kullak's Preparatory Octave School; etudes by Moscheles; sonatas by Mozart; Beethoven; modern pieces; Kullak's Octave School; Tausig's Daily Studies; Bach's Preludes and Fugues; concert pieces by Liszt; Schumann. Memorizing.

The Violin. Particular attention is given to correct position, intonation, and bowing; also to solo and orchestral playing. Text, selections from the following works or their equivalents: Methods by Wichtl, Henning, and De Beriot; exercises by Dancla, Pleyel, Schradick, Kayser, David, and easy solos; etudes of Kreutzer; solos by De Beriot, Leonard, Dancla, Singelee; modern pieces. Memorizing.

Orchestral and Band Instruments. Similar courses of instruction are given on all the more important orchestral and band instruments—string, wood-wind, and brass; also mandolin and guitar. Opportunities are also furnished advanced pupils for orchestral, band, quartet and accompaniment playing. Text, selections from the standard methods; studies and recreations suitable to the instrument.

Musical Theory, Composition, Instrumentation, and History of Music. The aim of these courses is to give the pupil an intelligent conception of music as a science and an art, and to lay a foundation for later studies which he may undertake in the field of artistic performance and original work in musical composition. The instruction given includes theory, notation, harmony, counterpoint, composition, instrumentation, analysis of form and style, and musical history. Texts: Elson's Theory of Music, Brown's Prismatic Charts, Berlioz's Orchestration, Marx's Composition, Prout's Instrumentation, Mathew's History of Music.

PHYSICS LABORATORY.



DINING ROOM.

Philosophy.

To be able to grapple most advantageously with the serious problems of life, one must have an intimate acquaintance with himself. To be able to become a valuable member of society, he must know how to develop and use his mental powers judiciously. Too many people are inclined to regard their mental activities as a sort of fixed inheritance, with little or no possibility of readjustment. It is the aim of this department to interest the student in a more careful study of the mental phases of human life, and to aid him in a more definite and systematic knowledge of the meaning of his own concrete experiences.

The several subjects are offered, as follows: No. 1 is required in all courses; No. 2, in general science course; and No. 3, in domestic science and general science courses.

1. **Elementary Psycholoy.** First year, winter term. This course is intended to give the student (*a*) a general idea of the meaning of psychology, and (*b*) a better method of expending his time and energies in the pursuit of college work. Not less than ten lectures will be given, as follows: (1) Neural basis of mind, (2) perception, (3) imagination, (4) memory, (5) habit, (6) thinking, (7) the emotions, (8) the will, (9) self-confidence, (10) methods of study and work. No text-book used.

2. **Logic.** Fourth year, fall term. While formal or deductive logic is studied briefly, the greatest emphasis is placed upon the inductive phase of the subject. Special prominence is given to methods of exact observation and experiment and correct principles of classification. The previous researches and experiences of the students are made to illustrate these principles. Some of the ends sought are: (1) To enable the student to think more clearly and to express his thoughts more lucidly; (2) to enable him more readily to detect the erroneous statements of others, whether made by design or through ignorance; (3) to imbue himself more fully with the scientific spirit, which is the guiding principle of human progress to-day; (4) to lead him into habits of systematic, scientific methods of work in whatever vocation he may follow during later life. Text-book, Creighton.

3. **Psychology.** Fourth year, winter or spring term. An effort is made to master the general principles of the subject, the various mental processes being analyzed and explained. Some attention is also given to theories of right and wrong and correct principles of action. Considerable time is given to the discussion of mental poise, self-control, emotional expression, the influence of the mind on the body, and the like. Special effort is made to enable the student to get the psychologic point of view, to the end that he may obtain a better understanding of himself and of human nature in general. He will then think of others in terms of mental conduct rather than in terms of physical conduct; and, having been made more fully aware of the obstacles that confront every earnest soul, he will become more sympathetic. Finally, as a result of systematic mental discipline, the student may expect to meet with greater success in his chosen vocation. Some simple experiments are performed, and each member of the class is given a topic for special research. Text-book, James.

ELECTIVES.

4. **Ethics.** In this brief course the aim will be: (1) To make a brief historical review of the several types of ethical theory; (2) to examine more critically the two great tendencies of the subject, viz., the hedonistic and the idealistic; (3) to arrive finally, if possible, at a working ideal on the subject of moral conduct.

5. **Pedagogy.** It has been found that a considerable number of the graduates of this College become public-school teachers. An act of the legislature grants to such graduates a three-year state certificate, renewable for life, provided they pass an examination in the so-called professional branches. These are given, as follows: History of education and school law, fall term; philosophy of education, winter term; methods and management, spring term.

GYMNASIUM SUIT.

Physical Training.

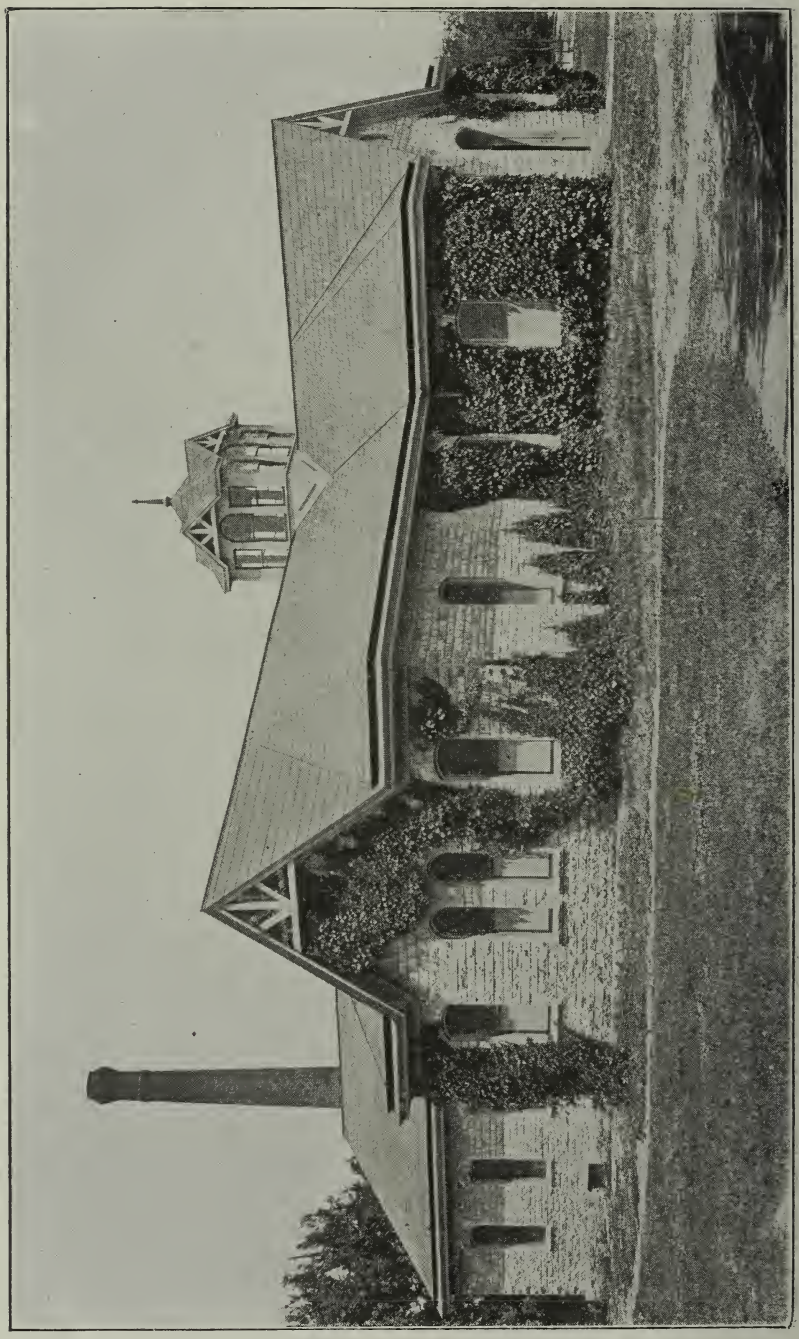
The maintenance of robust health and a good constitution should be one of the chief aims of every girl. It is impossible to cultivate the body without benefit to the mind; likewise, in order to cultivate the mind properly one should learn to care for the body. With this end in view, a gymnasium for women has been provided. It is well equipped with apparatus, shower-baths, lockers, etc., and a well-regulated system of physical training is in successful operation.

The German system of educational gymnastics is used as the basis of the work, while other systems are used in connection with it. Corrective and medical gymnastics are given to such as need them. The primary object of the work is to promote health, strength and symmetry of the body and to correct physical defects.

Daily classes are held in light gymnastics—free standing work, marching, fancy steps, drills with dumb-bells, wands, and Indian clubs, with musical accompaniment; heavy gymnastics, including horse, parallel bars, chest weights, flying ring, ladder, stall bars, climbing ropes, and horizontal bar. Gymnastic games, including tennis and basket-ball, are taught to those who care to learn. When the weather permits, exercises are taken in the open air.

All young women of the College have access to the privileges of the gymnasium, while those below the third year must elect physical training or music. Before entering upon the work, a physical examination is made by the director. The examination includes measurements of physical proportions, and takes note of the condition of the heart and lungs. From this examination an anthropometric chart is platted, showing size, strength, and development, and defects in comparison with the normal standard. Frequent measurements are taken and comparisons made to show effects of training.

A uniform suit has been adopted, which all the girls taking gymnasium work are required to provide themselves with. This should be done before entering school. The suit is black, and consists of a blouse waist and bloomers, and must be made in the uniform style, color, and cloth. The pattern for the suit may be obtained by sending twenty-five cents and bust measure to the director of physical training. Samples of cloth will be sent on application. Gymnasium shoes may be purchased at prices ranging from fifty cents to one dollar and thirty-five cents. The entire suit, including shoes, need not cost more than three dollars. Those who are unable to provide themselves with suits before entering school may hire them made in Manhattan at a cost of one dollar and fifty cents.



WOMEN'S GYMNASIUM.

Physics and Electrical Engineering.

In the courses following instruction is given by text-books, lectures, and laboratory work. The treatment is both theoretical and practical. Recitations and lectures are illustrated by means of apparatus and the projection lantern. The purpose of the general course in physics is to lay a thorough foundation in the fundamental principles of physical science and in the theory and practice of precise measurement. The physical laboratories are large, well lighted, and equipped with the necessary apparatus for both the elementary and advanced laboratory courses.

The course in electrical engineering is designed to provide the necessary preparation for young men who desire to engage in the practical work of electrical engineering. The theoretical work begins in the third year, with course No. 3 in physics. An extended course in laboratory work is given, covering the subject of electrical measurements, and prepares for the work of the fourth year in the dynamo laboratory. The electrical and dynamo laboratories are well equipped with high-grade apparatus and machinery, and afford every opportunity for a thorough preparation for practical work in electrical engineering.

Of the studies described, No. 1 is required in all courses; Nos. 4 and 5, in the general science and agriculture courses; Nos. 2 and 3, in the mechanical engineering course; Nos. 2, 3, 6, 7, 8, 9, 10, and 11, in the electrical engineering course.

1. **Elementary Physics.** First year, spring term. The work is intended to give the student a general view of the subject, with such laws and principles as will be useful in scientific study, and includes the most important principles of mechanics, heat, sound, light, and electricity. Text-book, Henderson and Woodhull.

Laboratory.—In this work the importance of accurate observation and conclusions is emphasized. In the laboratory the exercises will consist of measurements with calipers, balances, spherometers, micrometer-microscope, pendulum, and other instruments of like nature. Careful records of experimental work are required.

2. **Physics I.** Third year, fall term. During the term's work the general principles of heat and sound are treated, and the most-approved methods for the measurement of each will be discussed and illustrated. The derivation of laws and formulæ, including the solution of problems involving these laws, will be required. Text-book, Watson.

Laboratory.—Experiments with the principal instruments used in exact measurement. The work is intended to give the student skill in the manipulation of instruments, in the interpretation and reduction of results, and in the use of data in curve-tracing.

3. **Physics II.** Third year, winter term. The first half of the term is devoted to the subject of light. In this subject it is the purpose to develop the modern theory of light and its special application to refined physical measurements. The last half of the term is devoted to the subject of electricity. The fundamental laws of current, resistance and potential are developed, and the various methods and instruments by which they are measured are discussed. Use and care of batteries; electric wiring for light-

ing, telephone and bell circuits; wire inspection according to underwriters' rules.

Laboratory.—This work is designed to give the practical application of the laws of optics, the use and adjustment of surveying instruments and telescopes, lens testing, spectrometry. In electrical measurements, it consists of the measurement of resistance and current and the calibration of instruments. Every opportunity is given to become familiar with the electric current and the proper use and care of electrical instruments.

4. **Physics III.** Third year, winter term; and fourth year, fall term. A thorough study of the laws of forces and motion. Composition of forces and velocities by graphic and trigonometric solutions. Nature of sound; its wave motion and velocity; the factors that will change the velocity, and the phenomena produced by its reflection. Thermometry, calorimetry, the laws of radiation, and absorption of heat. Text-book, Hastings and Beach.

Laboratory.—The work will be of such nature as to give students an opportunity to make experimental tests of the laws in the subjects discussed in the classroom.

5. **Physics IV.** Third year, spring term; and fourth year, winter term. Electricity, magnetism, and light. This course is intended to give the student a historical review of the development of electricity and magnetism. The methods of measuring current and resistance will be discussed and illustrated. The solution of problems involving the laws derived in the classroom is required. Nature of light; laws of reflection and refraction. Construction of images in plane, concave and convex mirrors. Diffraction and interference. Text-book, Hastings and Beach.

Laboratory.—This work will include measurement of resistance, current, and potential; electrolysis, magnifying power of lenses, focal lengths, photometry, etc.

PHYSICS LABORATORY.

6. **Theory of Electricity.** Third year, spring term. Physics is begun in the fall term. The following subjects are treated: Current electricity, potential, resistance, quantity, theory of electrical measurements, induction, hysteresis, use of condensers, electrochemistry, elementary principles of the dynamo and motor, the ballistic galvanometer, Carey-Foster bridge, the various methods for the measurements of high resistances, calibration of commercial voltmeters and ammeters, the storage battery, etc. This course is, in many respects, the most important for the engineer, as it prepares the way for the more advanced work of the fourth year and affords every opportunity for exact measurement and mathematical treatment. Text-book, S. P. Thompson's Elementary Lessons in Electricity and Magnetism.

Laboratory.—It is the purpose of the laboratory course to continue the work of the classroom in the practical application of the principles and methods developed, the experiments being arranged to follow closely the theoretical development of the subject. The experiments include the measurement of current, potential, resistance, quantity, hysteresis, cable-testing, calibration of instruments, photometric tests of arc and incandescent lamps, use of Carey-Foster bridge, battery tests, etc. Especial emphasis is laid on curve-drawing and the interpretation of laboratory results. A number of reference books are used in this course.

7. **Direct-current Machinery.** Fourth year, fall and first half of winter terms. A continuation of the course in theory of electricity, including a detailed study of the principles of direct-current machinery, laws of magnetic circuits, the various types of machines and their characteristics, a study of efficiency and regulation, elements of design, the various methods

PHYSICS CLASS-ROOM.

of connecting for output and regulation, management, care and installation of machines. Text-book, Jackson's Electromagnetism and Construction of Dynamos.

Laboratory.—This course is designed to give familiarity with modern station practice. The laboratory is well equipped with one or more standard types of motors, dynamos, rotary converters, transformers, alternators, constant-current transformers, arc and incandescent lamps, and the necessary alternating and direct-current measuring instruments. An extended study is made of direct-current machines and auxiliaries, curve-plotting, tracing of E. M. F. and current curves of the various types of machines, photometric measurement of arc and incandescent lamps, various methods of determining efficiencies of motors and dynamos, machine characteristics, regulation, etc. The College and local plants offer additional opportunities for practical work. Courses of reading along the different lines of study are required.

8. **Alternating-current Machinery.** Fourth year, last half of winter and spring terms. The theory of alternating currents, the production of alternating electromotive forces, impedence, capacity and inductance in alternating-current circuits, measurement of power, the calculation of currents in reactive circuits, polyphase generators, induction motors, starting devices, transformers, etc. Text-book, Sheldon and Mason's Alternating-current Machines.

Laboratory.—Attention is given in this course to the work of testing transformers, alternators, rotary converters, induction motors, enclosed alternating arcs, and the various subjects taken up in classroom discussion.

9. **Dynamo Design.** Fourth year, [winter term. In this course each student is required to make the necessary calculations and working-drawings of such parts or mechanisms of electric machinery as may be assigned to him; the work to be based upon classroom discussions.

10. **Power Stations.** Fourth year, spring term. The work in this course is based on Bell's Power Transmission, supplemented by lectures and inspection visits. The treatment includes discussion of station design, methods of power transmission, electric traction, system of distribution, station management, etc. Text-book, Bell's Power Transmission.

11. **Electrochemistry.** Fourth year, fall term. This course will consist chiefly of a study of the processes employed in electrometallurgy and the electrochemical industries, the production of electrolytic copper, carborundum, etc. Such experimental work will be provided as the equipment of the laboratory will permit.

12. **Advanced Course in Physics.** Work in advance of the courses required of undergraduates will be offered to students who have completed the work in courses 1, 2, and 3, or the equivalent. The work will be largely of an experimental nature, with collateral reading and lecture work. While the student will work more or less independently, the course will be outlined and will be checked by the instructor in charge. Advanced problems in mechanics, heat, light and electricity will be taken up, and every opportunity offered to acquaint the student with the use of standard instruments in physical measurement. The course is especially adapted to accompany work in advanced chemistry, mathematics, or the needs of those intending to teach physics.

Preparatory Department.

Inasmuch as many students seek admission to the College with inadequate preparation in one or more of the subjects required for entrance, it has been found necessary to establish a preparatory department, in which such deficiencies can be remedied. Instruction is given in all studies required for admission to the College. See "Terms of Admission."

1. **Arithmetic.** Instruction is given in the principles that underlie the various classes of problems, thus teaching the student to rely upon himself, not upon rules. Text, state book.

2. **Algebra I.** This includes the fundamental operations, factoring, highest common divisor, lowest common multiple, and fractions. State text.

3. **Algebra II.** Simple equations, involution, evolution, theory of exponents, and radicals as far as the subject of quadratic equations.

4. **Algebra III.** Quadratic equations, ratio and proportion, arithmetical and geometrical progressions.

5. **Bookkeeping.** This is not an extended course, but sufficient instruction is given to enable the individual to open and close accounts in ordinary business transactions. State text.

6. **English Grammar.** The aim is to lay a good foundation for the further study of English. Recognizing the fact that grammatical drill develops in students logical habits of thought, besides giving them greater command of language, special attention is given to the analysis and construction of sentences and to the principles of elementary composition. Two classes are formed each term, the B class completing the work in two terms; the A class in one term. Text, Longmans.

7. **Advanced Grammar.** One term. A review of the principles of grammar as preliminary to the College requirements in English. Practice in grammatical analysis of difficult sentences and of extended passages of literature. Also a study of the etymology of derivative works, of synonyms, of the uses of words, and of the principles of sentence structure, with practical exercises in word analysis.

8. **English Readings.** As a prerequisite to admission to the College classes in English, a careful study is made of a number of standard productions of first-class interest and easy style. Sketches of authors, both oral and written, character sketches, abstracts, outlines and analyses of every production are required. As these productions are mostly read and discussed in class, opportunity is afforded for considerable valuable training in pronunciation and effective reading.

List of Readings.—Coleridge's Rime of the Ancient Mariner; Tennyson's Idylls of the King; Webster's Bunker Hill Orations; Arnold's Sohrab and Rustum; Shakspere's Macbeth; Irving's Sketch Book; Scott's Lady of the Lake; Shakspere's Julius Cæsar.

9. **English Composition.** One term. The work is based on Smith and Thomas's Composition and Rhetoric. The text is completed to chapter XIII, with the addition of chapter XIX and the appendix, special attention being given to the study of usage and diction. The object of the work of this term is to give the student a knowledge of the elementary principles of com-

position, to improve his vocabulary, and to help him overcome the fear of expressing himself in writing. To this end he is encouraged to choose subjects that spring from his own experience or observation, and is required to present one theme each week, which, after being read before the class, receives corrections from the instructor in charge.

10. **United States History.** The leading facts, causes and sequences showing the growth of our country and national history are studied with a view to develop true patriotism. Text, McLaughlin.

11. **Ancient History.** This course is introduced by a brief study of Egypt, the Hebrews, and other oriental nations. The history of Greece is followed from its prehistoric conditions to its conquest by Rome, 146 B. C. The Persian and Peloponnesian wars must be studied, but the emphasis is laid rather on the life and government of the people in their city-states, on the age of Pericles, and the art, literature and philosophy of the Greeks. Alexander the Great is studied, not so much for his military achievements, but rather as the disseminator of Greek civilization. The last half of the term is devoted to Roman history. The growth of the nation is followed, from the founding of the city till the great republic surrounded the Mediterranean and embraced practically all of the known world. The story of the Punic wars is, of course, included. The Romanizing of Europe; the reason for the change from republic to empire, and the method of its accomplishment; Rome's contribution to civilization, such as her roads and her laws; the origin of the Christian church; the Augustan age, and the lasting impression that 500 years of world empire made on mankind, are among the points emphasized. An attempt is made to acquire some familiarity with the great personages, such as Pericles and Cæsar, who played their part in the ancient world. Text, Myers's Ancient History, edition of 1904.

12. **Medieval History.** This course begins with the fall of Rome and the migration of the Teutonic tribes, thus discovering the very beginnings of the present European nationalities and languages. The work of Charlemagne; feudalism; the Christian church and monasticism; Mohammedanism; the achievements of the Northmen; the hundred years' war; the crusades; the formation of modern governments; the Italian cities, and the renaissance, are among the subjects studied. Special emphasis is given to the history of England and the rise and power of the medieval church. Text, Myers's The Middle Ages, revised edition.

13. **Physiology.** This is elementary work, intended to prepare students for the more advanced work given in second year of the agriculture, domestic science and general science courses. As far as possible, models, skeletons and dissecting material are made use of in the classroom. Martin's Elementary Physiology is used as a text.

14. **Geography.** Because of recent history, special attention is paid to the geography of the United States, its possessions, products, resources, methods of transportation, etc. Text, state book.

15. **Physical Geography.** Two terms. This subject considers the conformation of the earth's surface, the distribution of land and water, minerals, plants, animals, productions, the atmosphere and the ocean with reference to man's physical environment. These features are presented so as to show in what manner they affect man's way of living and how nature has guided in the development of mankind. State text.

16. **Botany I.** The object of the course is to acquaint the young student with the primary essential facts in the life and growth of plants; to enable him to see how plants work and live, and upon what things, in the external world, they depend. As much knowledge of plant structure is required as will render the working processes clear. Practical studies are followed out in such problems as germination and growth, in the uses of the different plant organs, in respiration, transpiration, carbon assimilation, storage and transport of food, building up of tissue, etc. The effects are studied of unfavorable conditions, such as drought, freezing, lack of sunlight, etc. The different ways in which plants increase are examined, and the manner in which they struggle for possession of the soil. In general, in this course, the seed plants are chiefly employed for illustration and experiment, but the other great groups are freely drawn upon, and the general way in which the different groups are related to one another is shown in an elementary manner. Text-book to be selected.

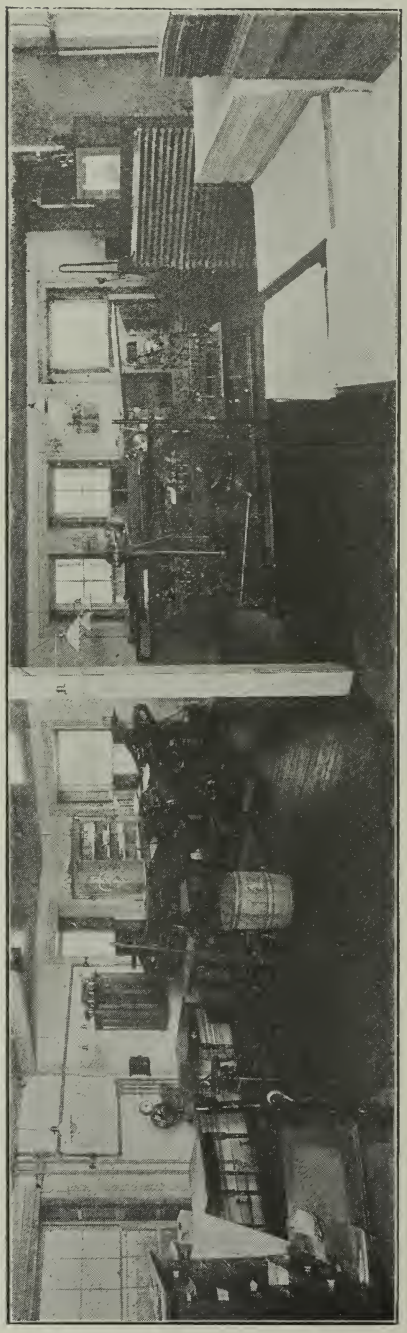
17. **Other Branches of Study.** Instruction is also given in spelling, reading, and writing.

Printing.

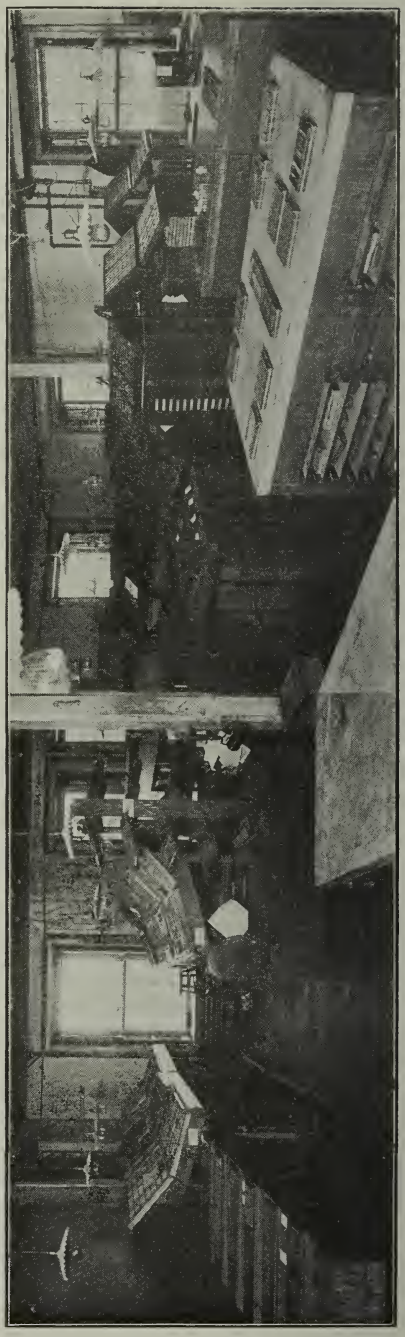
The printing department, in the main building, occupies six large rooms, viz.: Superintendent's office, composing-room, pressroom, folding-room or bindery, mailing-room, and storeroom—all well lighted, amply ventilated, and heated by steam.

1. **Instruction.** The lessons embraced may be briefly summarized under these suggestive topics: The elements of news, book and job composition and imposition; proof-reading and correcting; plain and color presswork; embossing; adaptation of various grades of inks and papers; newspaper and magazine folding; mailing; tableting of stationery; and pamphlet stitching and stapling. The instruction is of that character in which individual advancement is always taken into account, and opportunity is extended for individual growth in the knowledge of those principles which are of practical utility in the every-day work of a printing-office. Occasion for the gaining of experience and acquirement of skill is supplied by the weekly publication of the *Industrialist*, the *Students' Herald*, and the monthly *Jayhawker*—all in magazine form; the execution of the wide range of job-printing needed to furnish the various College departments with blanks, lesson outlines, and stationery, and the College societies with programs, notices, etc.—thus furnishing a greater range of work for instruction than is ordinarily found in the average printing-office.

2. **Equipment.** Forty cases of six-point, eight-point and ten-point body type and italics; an assortment of wood and metal job type and brass rule; a Babcock two-revolution, four-roller "Optimus," quarto-medium and eighth-medium Gordon job-presses, and a Monitor wire-stitcher—all run by electricity; type-high mitering, rule-curving and stapling machines; paper-cutter, cabinets, stands, imposing-stones, etc.



PRESS ROOM.



COMPOSING ROOM.

Public Speaking.

There is perhaps no study of wider application and of more immediate benefit to the student than that of vocal expression. It helps him in his other studies. Every recitation affords him an opportunity of practically applying the rules and principles of correct expression, and, what is of still greater value to him, he soon discovers for himself the fundamental principle that proper expression is always the result of a thorough comprehension of the thought. Shallowness and inaccuracy are almost wholly due to defective reading. For this reason, students are encouraged to form the habit of mentally paraphrasing whatever they read, to the end that they may grasp every detail, relationship, contrast and purpose contained in the subject-matter. This habit, when formed, leads to accuracy of scholarship in any line.

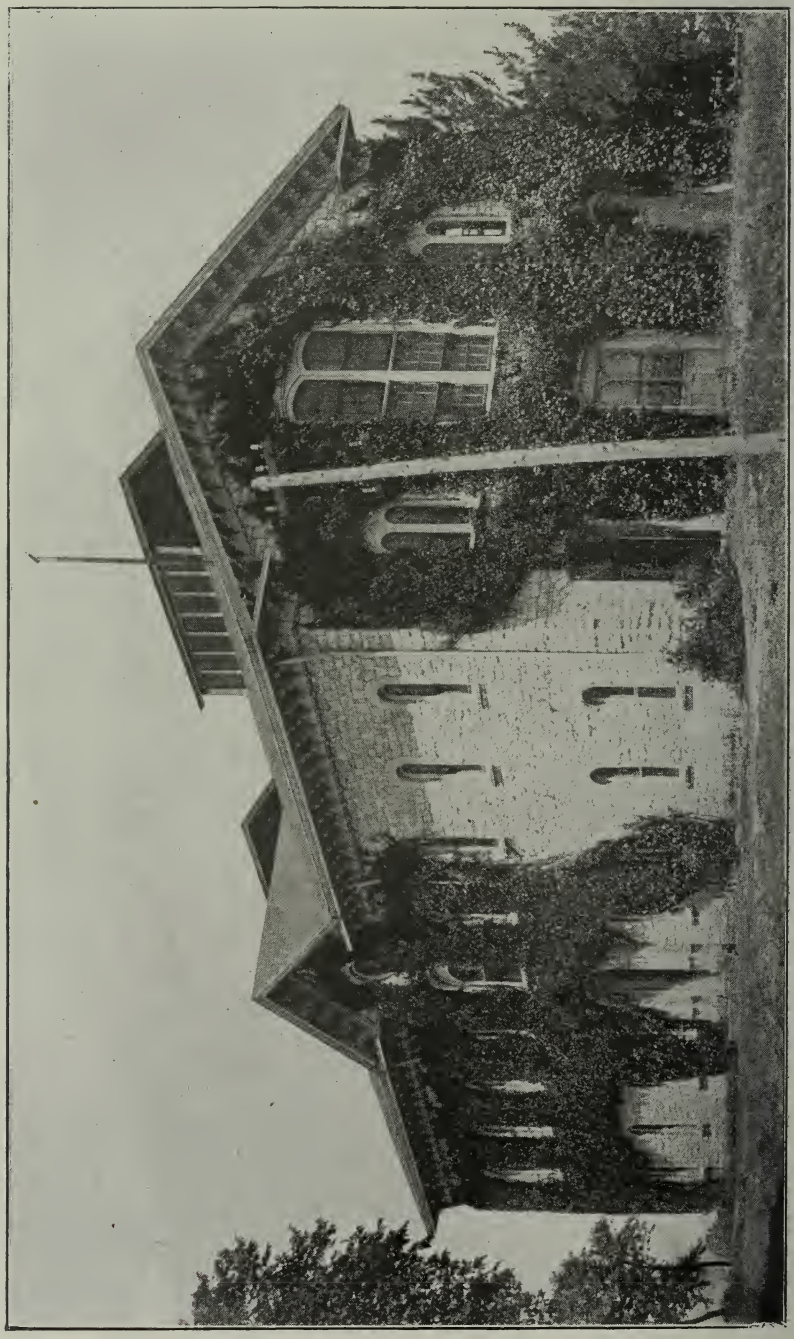
It is not intended that this department should afford an extended course in elocution. There is no intention of fitting students for the stage or platform as professional readers. It may be safely affirmed, however, that the course here offered, taken in conjunction with correlated subjects in the department of English, will prepare the student in this line for all the ordinary demands of an active and useful career.

1. **Public Speaking I.** Second year. Required in all courses. The work in this course is largely analytic. A critical study of the four general types of utterance. Paraphrasing as a preparation for expression. The principle of grouping. Musical properties of speech. Practice in literary and expressional criticism. Carefully selected exercises in vocal technique are given throughout the course. Lessons are assigned, prepared and recited as definitely as in any other study. Text-book, Vocal Expression and Literary Interpretation, part I.

2. **Public Speaking II.** Second year. Required in all courses. In this course the work is synthetic. The principles of vocal expression as studied in part I are here applied to literary wholes. Studies in formulation, discrimination, emotion, and volition. The principle of unity and the laws of movement, principality, contrast and climax are studied and applied to numerous selections from standard literature. Studies in tone-color, transitions, and descriptive gesture. The purpose is to cultivate taste, judgment and facility in the art of expression. Instruction is based on Vocal Expression and Literary Interpretation, part II.

3. **Public Readings.** Second and third years. Required in all courses. The instruction in this course is individual and consists of private rehearsals. Each student is required to appear in public at least once a year. For this purpose all sophomores, juniors and seniors are assembled in chapel every Saturday afternoon throughout the year.

4. **Orations.** Each senior student is required to prepare an oration for public delivery. These productions must meet all prescribed requirements, be rehearsed, and delivered as outlined in No. 3. By special arrangement, credits in public readings and orations may be obtained for equivalent work done in any of the College literary societies.



ARMORY.

Veterinary Science.

The course in veterinary science is designed to prepare the student for a professional career and thoroughly equip him for his life-work. The general studies included in the course all intend to broaden his ideas, the better to fit him for his duties as a citizen, giving him the opportunity of raising himself in the social life equal in standing to that of the human physician.

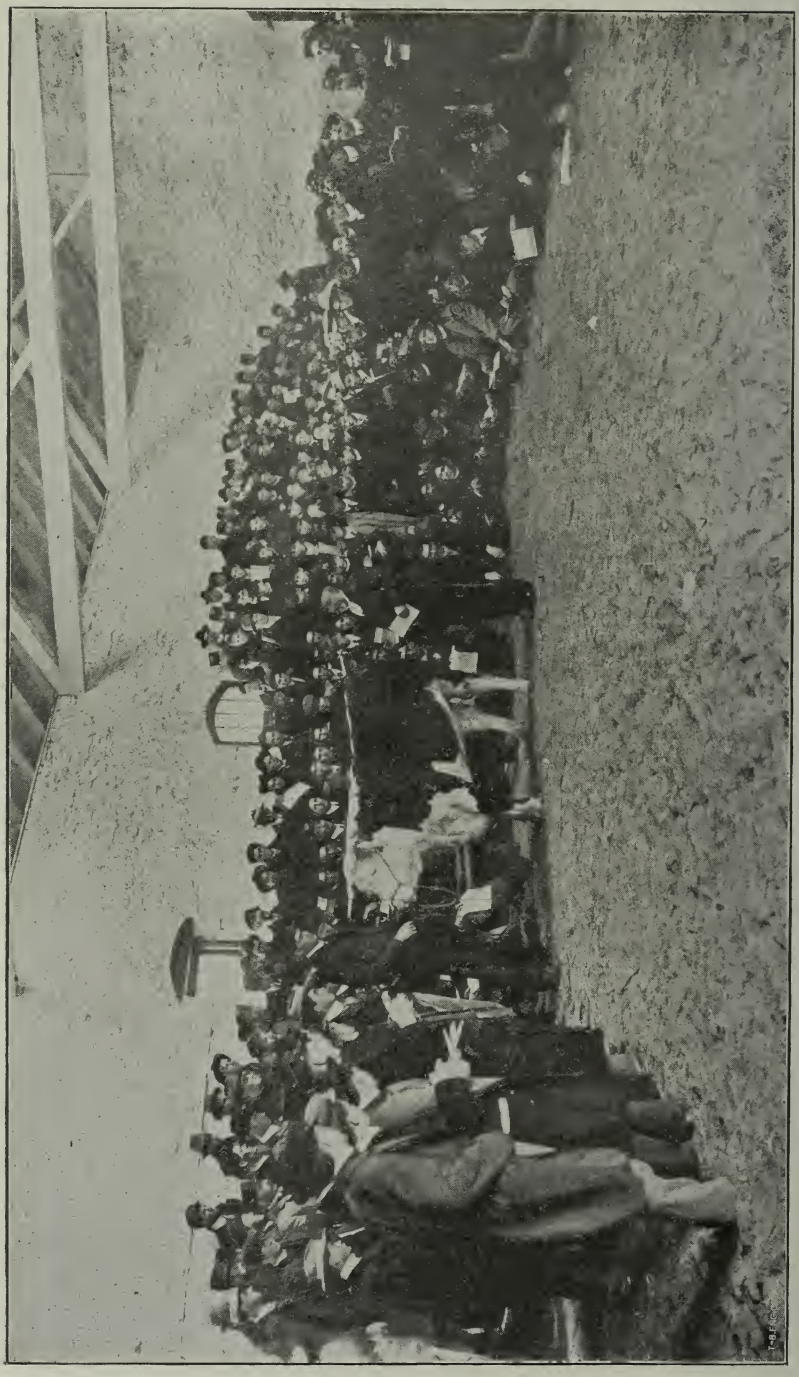
The agriculture students receive a special course of training in the line of practical nursing, minor surgery, the use of domestic remedies, and a general knowledge of the diseases of animals and how they can be prevented.

Nos. 4 and 11 are required in the agriculture, domestic science and general science courses.

Anatomy.

The course in anatomy receives special attention, owing to the fact that every qualified veterinarian must be master of this subject. It is the foundation of the course in veterinary science, and, therefore, is taught in the most practical manner possible. The instruction in anatomy is given by lectures, recitations, and laboratory work; the latter being by far the most important. The lectures are for the purpose of presenting general facts which will aid the student in recitation and dissection. To emphasize the relation of the various structures of the body, and to note particularly the positions of organs most subject to surgical operations, the major part of the course is devoted to laboratory work. Each student is required to make several dissections of the horse, and such parts of other animals as may be deemed necessary. The dissections are made in a systematic manner; each student is required to dissect and pass an examination upon the part assigned before he is allowed to advance to other parts. The recitations are largely a review of the work in the laboratory. The repeated quizzing fixes the various points more firmly in mind, thus giving the student a thorough working knowledge in anatomy, preparing him for the work in surgery. In the study of the bones and muscles, the skeletons in the museum and the Auzoux models give valuable assistance. Manhattan and surrounding country furnish ample material for the work in anatomy. Textbooks, Strangeway and Chauveau's Anatomy, McFadyean's Dissection Guide.

1. **Anatomy I.** Second year, fall term. In this course the students make a comparative study, first, of osteology, which includes the consideration of the general principles applicable to the study of all the bones. The bones of mammalia in particular, which includes a study of the vertebral column, bones of the head, thorax, anterior limb, posterior or pelvic limb, and foot. The articulations, including the articulations in general, articulations in mammalia in particular, considering the articulations of the spine, head, thorax, anterior limb, posterior limb, and the general and special ligaments of each part. Muscles: General considerations of the striped muscles, manner of study, muscles of mammalia in particular, and muscles of the anterior limb.



JUDGING BEEF CATTLE.

Materia Medica.

This department includes materia medica, therapeutics, and pharmacology; materia medica and therapeutics extending through the sophomore year, with pharmacology in the spring term, junior. The student is taught the physical and chemical characteristics of drugs and their therapeutic action. Methods of cure other than drugs are also discussed. The course is both practical and theoretical, preparing the student to use the therapeutic measures at his command in a rational manner. The actions of the more important drugs are studied throughout the course in medicine, surgery, and general clinic.

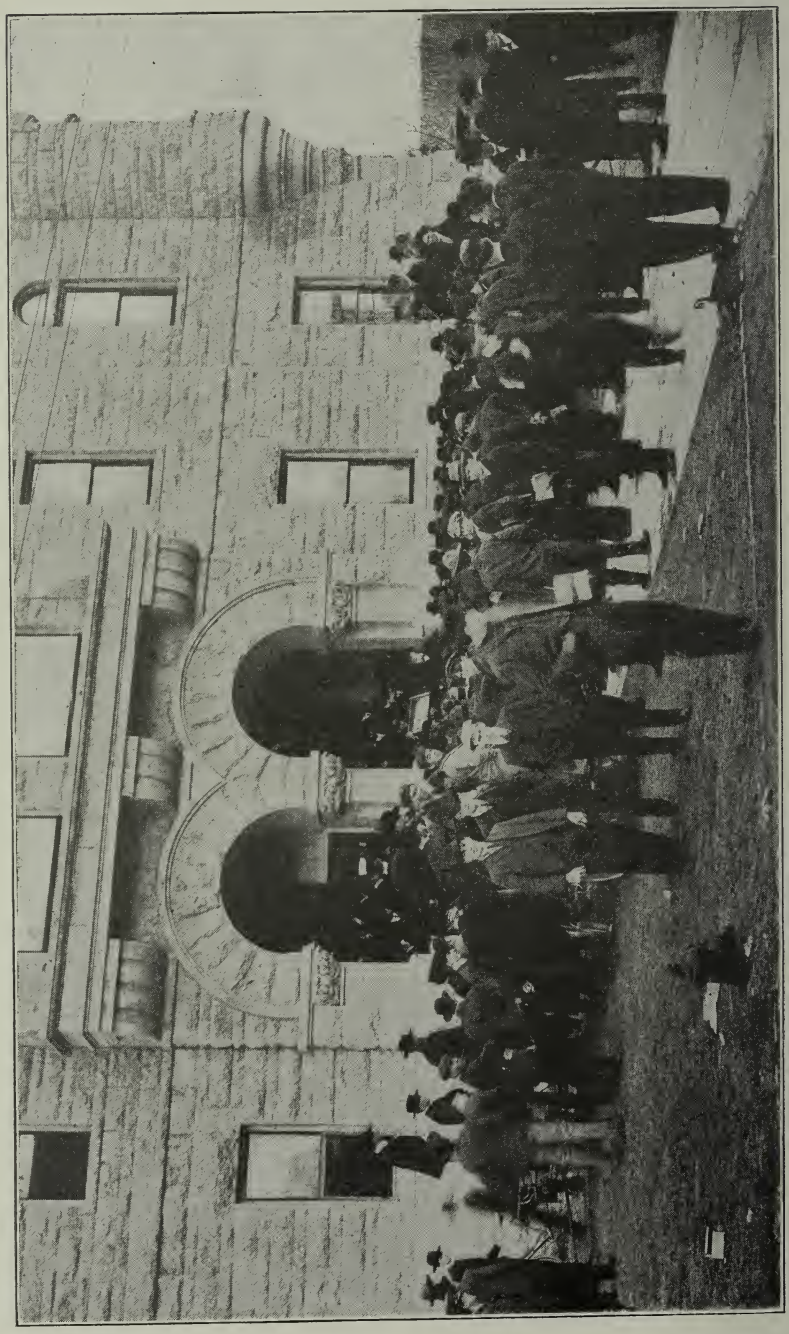
2. **Materia Medica I.** Second year, fall term. The student is taught the definitions of the science, the mode of actions of drugs, and their indications. Comparative action of drugs on various animals, doses and the time of administration are thoroughly discussed. Drugs acting on the digestive system; drugs acting on the circulation, blood, heart, and blood-vessels; drugs influencing the brain, spinal cord, the nerves, and drugs acting on nerves of special sense; drugs acting on the respiratory organs, the urinary organs, sexual organs; drugs influencing metabolism and bodily heat; drugs acting on the skin; drugs which destroy micro-organisms and parasites. Text-book, Winslow.

Histology.

The study of the microscopic structures of the body is given in the beginning of the sophomore year. The histology prepares the student for general pathology, pathological histology, and, in fact, all the studies which have a direct bearing upon veterinary medicine. The student can thus grasp more clearly the location of the various cells and tissues which may be acted upon by drugs or are the seat of disease. He is better able to picture the lesions in pathological histology by being acquainted with the normal microscopic appearances. It is thus evident that a thorough course in histology is important for the truly educated veterinarian.

3. **Histology Laboratory.** Second year, fall term. This course is conducted by illustrated lectures, quizzes, and strictly laboratory work. The purpose of the lectures is to clear up any difficulties that the student might encounter, and thus understand and appreciate the specimens studied in the laboratory. In the quizzes, the following subjects are considered very fully: The cells and the tissues, epithelial tissues, muscular tissues, nervous tissues, peripheral nerve endings, circulatory system, lymphatic system, mucous membranes and glands, digestive tract, urinary organs, male reproductive organs, female reproductive organs, respiratory organs, skin and its appendages, central nervous system, eye and its appendages, organ of hearing, nasal mucous membrane, and the most successful histological methods.

In the laboratory work proper, the student is first given a course in microscopy, in order that he may properly use the microscope and obtain the best results from the study of the prepared slides furnished. The assigned slides used by the student consist of specimens of the various tissues and organs studied in the recitation work. In addition to examining a slide, each student is required to make drawings of the specimens. The drawings are generally made, usually one at a small magnitude, to show the object as a whole; and the second, made of the same object, showing some of the details at a much greater magnification. The drawings made in the labora-



PRIZE CORN SALE AT CORN-GROWERS' MEETING.

tory work are retained by the student to aid him in pathological histology, by referring back to preparations, drawings and descriptions of normal tissues and organs. In addition to studying assigned slides, the student is given instruction in the fixing, sectioning and mounting specimens and the best methods to be employed for the different tissues. Text-books, Gage's Microscopy, Piersol's Histology.

Physiology.

Physiology, like anatomy and histology, belongs to the foundation studies. It is a well-known fact that in disease or injury the normal physiological workings of the tissues or organs should be well understood in order fully to appreciate the conditions brought about by the disease or injury. A course in general physiology has been advisable, preparing the student for the comparative physiology to be given later.

4. **Physiology.** Second year, winter term. The instruction in general physiology consists of the consideration of the composition of bones, blood, lymph, and all secretions of the body, with their functions. The functions of tissues and glands, together with their microscopic structure; also the structure and function of the digestive tract, respiratory tract, and skin. In order that the student may more fully understand the class work, a laboratory course is offered, consisting of two hours a week, in which the student is required to dissect small animals; also study the microscopic structure of all the glands of the body. The laboratory is equipped with skeletons, papier-mache manikins, and models of the eye, ear, etc.; also with both high- and low-power microscopes for each student. Veterinary students are not required to take the laboratory work, as it is a part of the work in the histology laboratory. Text-book, Thornton.

5. **Materia Medica II.** Second year, winter term. The inorganic agents which are more commonly used in medicine are thoroughly studied, including their action upon the different animals, external and internal, the source, character and indications of the drug, the preparations of each, and the dosage. The student becomes familiar with the drug and its action in the hospital, where we have occasion to demonstrate the use of nearly all drugs studied.

6. **Anatomy I Laboratory.** Second year, fall term. This course is a continuation of anatomy I. The student is first given a review of the work covered in anatomy I, following a proper dissection of the muscles of the trunk and of the posterior limbs. General consideration of the digestive apparatus, the digestive apparatus in mammalia, the preparatory organs of the digestive apparatus, the essential organs of digestion, the digestive apparatus of birds. The respiratory apparatus, considering very fully the respiratory apparatus in mammalia, making a comparative study of the air-tubes and nasal cavities in the various animals, differential characters in the thorax of the various animals, a study of the glands connected with the respiratory apparatus; lastly, a special study of the respiratory apparatus of birds.

7. **Comparative Physiology.** Second year, spring term. The course in comparative physiology consists of lectures, demonstrations, recitations, and laboratory work. It must be preceded by the course in general physiology. Special attention is given to the nutritive functions and general di-

rections for the feed of various animals from a physiological standpoint. The course consists of a comparative study of the subject of the blood, heart, blood-vessels, vascular glands, respiration, digestion, the liver and pancreas, absorption, the skin, urine, nutrition, animal heat, muscular system, lymphatic system, nervous system, senses, the locomotor apparatus, the foot, generation and development, growth, decay, and death, and the general chemical constituents of the body. Text-book, Capt. F. Smith.

8. **Anatomy II.** Second year, spring term. This course consists of lectures and recitations on the urinary, circulatory and lymphatic apparatus. The object of this course is to emphasize the manner of dissection of the kidneys, ureters, bladder, urethra, suprarenal capsules, and the differential characters of the urinary organs in the various animals. Also a full consideration of the heart as a whole, the external and internal conformation of the heart, a review of its structure, the pericardium, and the differential characters of the heart in other animals than the horse; a general consideration of the arteries, considering the aorta, common aorta, posterior aorta, parietal branches of the posterior aorta, visceral branches of the posterior aorta, differential characters of the posterior aorta and its different branches in the different animals; differential characters of the internal iliac arteries of the various animals, external iliac arteries of the various animals, external iliac arteries with the differential characters of the external iliac arteries of the various animals; anterior aorta, branchial trunks, differential characters of the axillary arteries of the various animals, the common carotid arteries, fetal circulation, the veins; general consideration of the veins, veins of the lesser circulation of pulmonary veins, veins of the general circulation; general consideration of the lymphatics, the lymphatics in particular, the thoracic duct, the lymphatics which constitute the affluents of the thoracic duct, glands and lymphatic vessels of the limbs, pelvis, abdominal parietes, and pelvic inguinal organs, abdominal viscera, thoracic cavity, head and neck; also the great lymphatic vein.

9. **Anatomy I. Laboratory.** Second year, spring term. In this course the student dissects all the structures outlined in course 8.

10. **Materia Medica III.** Second year, spring term. This work being merely a continuation of the former, the time is devoted more especially to the vegetable drugs used in medicine, their source, actions, dosage, alkaloids, tinctures, fluid extracts, solid and powdered extracts, and the indications for these different forms in diseases of the lower animals are thoroughly discussed, and, so far as practicable, demonstrated in the regular clinic.

Bacteriology.

Bacteriology has made rapid advancement during the past few years. The opportunities for investigation and the value of a general knowledge of the science renders a thorough course apparent.

11. **Bacteriology.** Second year, spring term. The general bacteriology consists of the study of the morphology, classification and physiology of bacteria; relation of external conditions to bacterial development, disinfectants and disinfecting; bacteriological technique, preparation of culture media, staining, isolating and identifying bacteria; general fermentation, putrefaction, and decay; bacterial action on foods, nitrification, ptomains,

toxins, and other bacterial products; hygiene of infectious diseases; the preparation and use of antitoxins and vaccines.

12. **Bacteriology Laboratory.** Second year, spring term. The students of all courses are required to take laboratory work in which they study cultural and microscopical features, the staining of bacteria, and preparation of culture media, thus becoming perfectly familiar with bacteriological apparatus.

Veterinary Medicine.

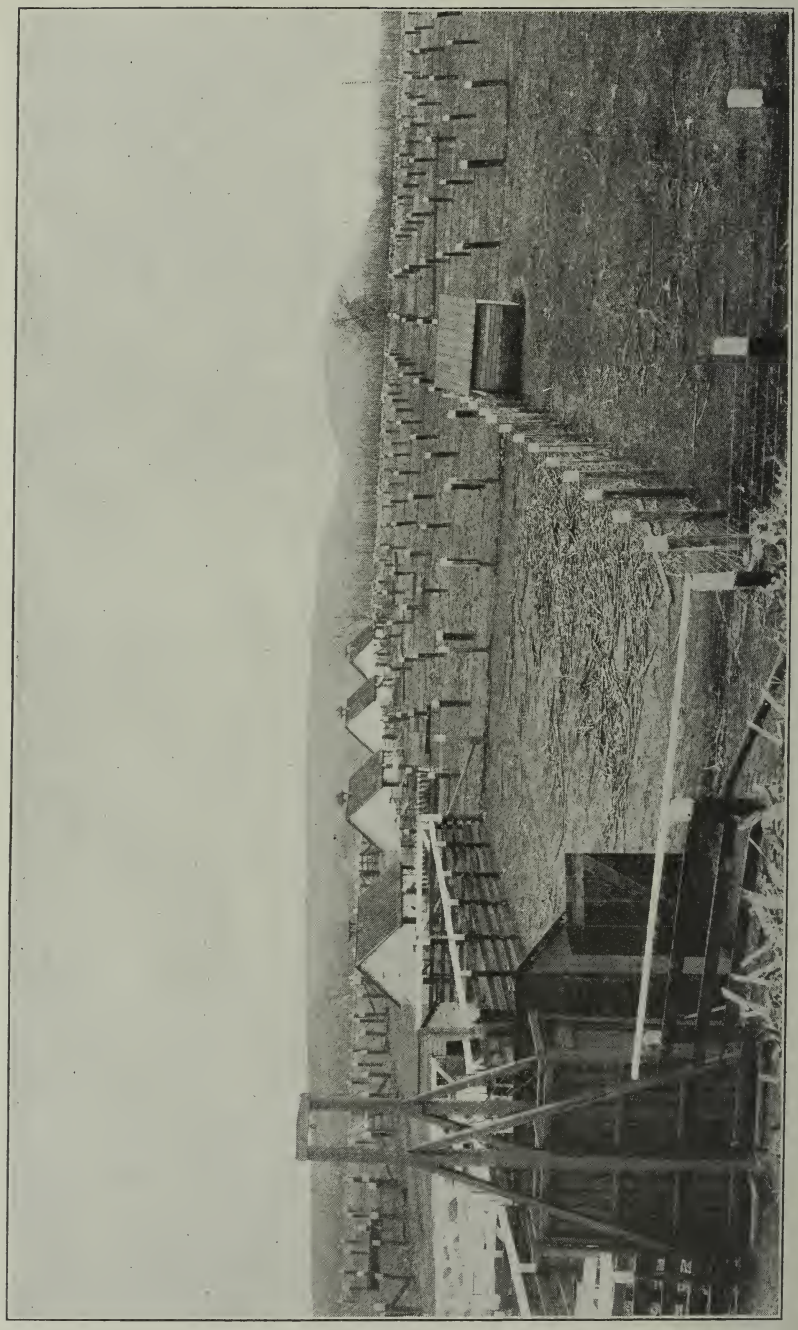
The study of medicine extends throughout the last two years of the course, and is taught by lectures and recitations, supplemented by practical demonstrations in the clinic. An exhaustive study is made of Doctor Law's Veterinary Medicine, the five volumes being used as a text. The student familiarizes himself in the daily clinic with nearly all the diseases met in an ordinary practice of veterinary medicine, thereby becoming thoroughly conversant with their causes, symptoms, diagnoses, treatment, and prognoses. A special course in lameness and shoeing is given to seniors. Contagious diseases, parasitism and sanitary science are included, giving the student a thorough knowledge of the practical as well as theoretical phase of the subject.

Each student, before entering the senior year, must be proficient in diagnosing and treating the more common diseases and be able successfully to prepare and administer medicines in all forms. During the year just passed upwards of 300 different cases have been treated in the general clinic in which the students have had a practical part; many of them treated by the student alone. This work inspires confidence, and the knowledge thus gained is indelibly fixed upon the student's mind.

13. **Medicine I.** Third year, fall term. Introducing the student into the study of internal medicine; the general pathology is first considered. This is followed by a comprehensive study of the diseases of the respiratory and circulatory organs, of the blood-vessels and lymphatic system in all domestic animals. Special stress is being placed upon the various causes, the symptoms, the diagnosis, prognosis, and treatment, and tissue changes of the organs in these diseases.

Surgery.

The veterinary hospital and daily clinics furnish an abundance of material for practical work. Senior students are assigned to major operations for diagnosis and treatment, under the supervision of the professor in charge. The student is therefore given the opportunity to put into practice the principles acquired in the recitation, this gives him confidence to perform similar operations upon his own responsibility. The junior students are assigned to various cases as assistants to the seniors, doing such work as helping to confine animals, preparing fields of operation, and dressing the cases daily after the operation. The senior doing the operating has special charge of the case. The clinic is conducted the same as laboratory work in other departments, especially designed blank books being furnished for this work. When assigned a case, the number of the case is taken by the student, the owner's name, his address, and the species, age, sex and color of the patient, the date when the animal arrived, the history of the case, the exciting or predisposing causes, previous treatment, symptoms, the student's diag-



HOG PENS.

nosis, the prognosis, etc. Sophomore students are not required to attend clinic, but are given the opportunity to receive instruction in the administration of capsules, drenches, enemata, blisters, hypodermic injections, etc., and assisting in confining animals.

A special course in dentistry is offered, owing to the numerous diseases of the teeth in horses. The course is given by lectures and laboratory work in connection with the general surgical clinics. In the lectures special attention is given to the structure of the teeth, their location in the jaws, their growth and replacement, diseases and irregularities of the teeth and how to treat them. A practical demonstration of the work pursued in the lectures is given in the dental clinic, where each student receives personal instruction in the use of each dental instrument. The surrounding country affords an ample number of cases to illustrate cutting elongations, floating, extraction, repulsion, and trephining. Before passing the subject, each student is required to become reasonably proficient in all the ordinary dental operations.

14. **Surgery I.** Third year, fall term. The course in surgery is given by recitations and hospital work. In the beginning the students are given a preliminary course on surgical restraint (the means of controlling animals), the use of anesthetics, antiseptics, etc., general principles in healing wounds, controlling hemorrhages, administration of medicines, bandaging, massage, etc.

15. **Anatomy III.** Third year, fall term. This course consists of a consideration of the nervous system, including the protective and enveloping parts of the cerebro-spinal axis, the nerves, including the cranial or encephalic nerves, spinal nerves, brachial plexus and its branches, lumbo-sacral plexus and its branches, and the great sympathetic system. The student is also given a review on the circulatory system, urinary system, and lymphatic system.

16. **Anatomy Laboratory III.** Third year, fall term. In this course the student dissects the brain, cord and nerves outlined in course 15, and reviews the dissection of the urinary, circulatory and lymphatic systems.

17. **Medicine II.** Third year, winter term. During this term the diseases of the digestive organs in all the domestic animals are studied. This also includes the diseases of the liver, pancreas, and spleen. Special stress is laid upon the different forms of colics, their causes, differential diagnoses, and treatment.

18. **Surgery II.** Third year, winter term. This course considers minutely the causes, symptoms, prognosis and treatment of the surgical diseases of the head, nose, nostrils, salivary glands, face and lower jaw, ear and guttural pouches, skull, neck, larynx and trachea, thorax, abdomen; surgical diseases of the stomach and bowels, urinary organs, posterior portions of the rectum and anus, male organs of generation, and female organs of generation. Text-book, Möller.

Pathology.

This important subject is given special attention on account of its value in veterinary medicine, being the basis of diagnosis and rational therapeutics. A course in practical pathology is necessary in such special branches of veterinary practice as meat inspection and other government positions.

19. **General Pathology I.** Third year, winter term. This course must be preceded by normal histology; the student considers the causes of disease, the spread and generalization of disease through the organism, autointoxication and secondary diseases, the protective and healing forces of the body, the acquiring of immunity, disturbances of the circulation of the blood and lymph. Text-book, Zeigler's General Pathology is used as a guide.

20. **Anatomy III Laboratory.** Third year, winter term. This course consists of a full discussion of the apparatus of touch, taste, smell, vision, and auditory, the parts being fully demonstrated upon the cadaver; also, a dissection of the genital organs of the male and female mammalia, and the generative apparatus of birds. A review of the entire subject of anatomy, including the muscles, bones, arteries, veins, nerves, etc., is given before leaving the subject.

21. **Medicine III.** Third year, spring term. A thorough discussion of the diseases of the urinary and generative organs, skin, eye, and nervous systems, also constitutional diseases, occupies the attention of the student in this session.

22. **Surgery III.** Third year, spring term. This course is a continuation of surgery II, and includes a complete study of the surgical diseases of the spinal column and pelvis, the fore and hind limb. Text-book, Möller.

23. **General Pathology II.** Third year, spring term. This course is a continuation of general pathology I. The subjects considered are the retrograde disturbances of nutrition, and infiltration of tissues, hypertrophy, and regeneration, results of transplantation of tissues, inflammation, and fever.

24. **Pharmacology Laboratory.** Third year, spring term. In the laboratory course of pharmacy the student is given a thorough drill in the pharmaceutical processes, the different official preparations and methods of preparing them, the non-official preparations which are used in veterinary practice. The incompatibility of drugs, chemically, physically, and physiologically, are demonstrated in the laboratory and hospital. A thorough drill in prescription writing, measures and weights is given, and the preparing of the tinctures, fluid extracts, and powdered extracts of those drugs most commonly used in veterinary practice receives a considerable attention. The student is required to compound prescriptions used in the College practice, make boluses, blisters, liniments, etc., and has a thorough course in the identification of drugs in their different forms.

25. **Medicine IV.** Fourth year, fall term. This includes the infectious diseases, sanitary science, and police. A thorough drill is given in the bacteriology of tuberculosis, Texas fexer, glanders, hog-cholera, rabies, contagious abortion, anthrax, influenza, and distemper. The methods of diagnosis, control, and eradication, and the laws governing general and special contagious diseases.

26. **Meat Inspection.** Fourth year, fall term. The work in this department prepares the student for the government civil-service examination and general sanitary work. The course considers a general discussion of meat inspection, the food of animals, the inspection of animals before slaughter, method of slaughter, and inspection of slaughtered animals. The normal appearance and differentiation of meat and organs of different animals; abnormal physiological conditions which possess sanitary interest;

general pathology of food animals from the standpoint of sanitary police; *post mortem* alterations of meat; preservation, adulteration, and the effects of different diseases on meats; parasites and parasitism in general as related to sanitary work; a discussion of the laws regulating the inspection of meat and meat-producing animals in the United States as well as foreign countries; contagious diseases, their control, and laws governing the same. Text-book, Ostertag.

27. **Special Pathology.** Fourth year, fall term. The course in special pathology treats of the etiology and morphology of diseases caused by streptococci, bacilli, higher fungi, protozoa, disturbances of development and resulting malformations, tumors, and the special lesions of the infectious diseases.

28. **Special Pathology Laboratory.** Fourth year, fall term. In this laboratory work the student is taught the methods of preparation, preservation and mounting of pathological specimens for microscopic study; diagnosing for microscopic examination from specimens furnished, including the various tumors, inflammations and degenerations which have been fully considered in the recitation work.

29. **Surgical Anatomy.** Fourth year, fall term. This course consists of regional dissection, preparing the student for the course in operative surgery; special attention being given to the location of and operating for trephining the frontal sinuses and maxillary sinuses; the location of the trifacial nerve as it emerges from the infraorbital foramen. A special dissection showing location of the gutteral pouches; a dissection of the trachea for tracheotomy. The parts of the larynx are given special attention, particularly for the location of operating for arytenoidraphy. The jugular vein is dissected, showing its relation to the carotid artery and the point for it to be opened in phlebotomy. The esophagus is dissected, from its beginning above the larynx to its termination in the stomach, the various points for the lodgment of foreign substances being especially noted. The muscles of the tail are carefully reviewed, to indicate the location of operation for myotomy and caudal myectomy. The surgical anatomy of the urethra is carefully pointed out, to indicate the location of operating in the case of urethrotomy. The genital organs of both male and female are carefully dissected, to indicate seats of operation. Tendons of the perforatus and perforans are separated, to indicate the location of the operation for tenotomy; also the lateral extensor of the foot as it joins the extensor pedis is located before the integument is incised, to indicate location of operation of tenotomy of this tendon in the case of string-halt operation. The cunean branch of the flexor metatarsi, having special importance in the spavin operation, is located upon the cadaver; the various nerves which will be the seat of operation are especially dissected, such as the plantar, digital, median, ulnar, sciatic, and anterior tibula.

30. **Medicine V.** Fourth year, winter term. This term's work includes parasites and parasitism, internal and external, special methods of diagnosing, and the treating of animals affected with parasites. Neuman's Parasites is used as a reference book.

31. **Surgery IV.** Fourth year, winter term. This course is devoted to the subject of horseshoeing, which considers the following subjects: The horse's foot in relation to shoeing, the structure and functions of the foot, and the shoeing of diseased feet and of lame horses. Text-book, Dollar's Handbook of Horseshoeing.

Obstetrics.

The increased value of the breeding stock of the state of Kansas calls for the employment of a skilled veterinarian at the time of parturition. For this reason a very extensive course is offered in obstetrics.

32. **Obstetrics I.** Fourth year, winter term. This course considers fully the obstetrical anatomy, obstetrical physiology, including reproduction, puberty, fecundation, sterility, changes in the ovum, development of the embryo, fetal membranes, development of the fetus, gestation, hygiene of pregnant animals, pathology of gestation, which includes anomalies, diseases of the pregnant animals, and accidents of pregnancy. Normal parturition, which includes the physiology of parturition, the causes of parturition, the expelling powers, symptoms and course of parturition, presentations of the fetus, necessary aid in normal parturition. Dystokia, including maternal dystokia by pelvic construction, dystokia by displacement or changed relations of the uterus, dystokia from morbid alterations in the genital organs, and fetal dystokia, including excess in volume of the fetus, diseases of the fetus, monstrosities, and dystokia from multiparity. Text-book, Fleming.

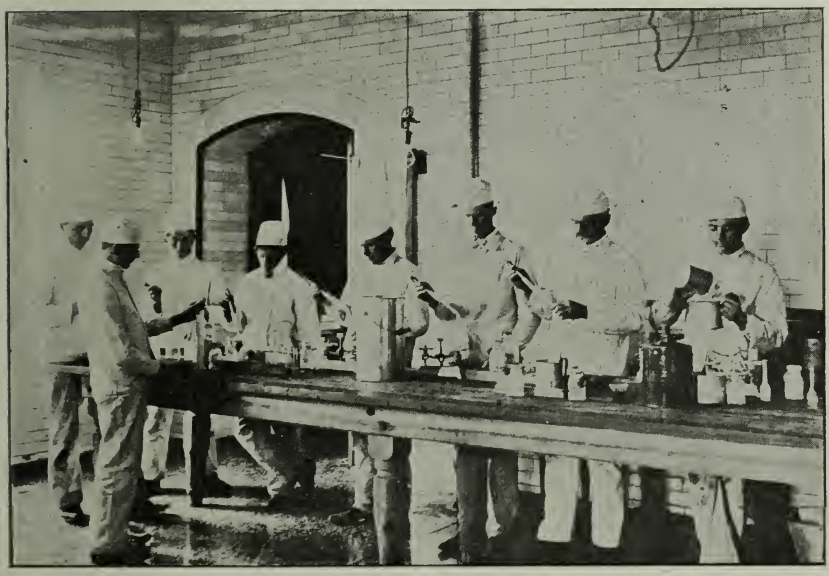
33. **Special Bacteriology Laboratory.** Fourth year, winter term. This course considers pathogenic bacteriology and must be preceded by the work in general bacteriology. It is required of all students of veterinary medicine. The student must make all media used, isolate and identify the germs of the most important infectious diseases of our domestic animals and man, by growing them on media, and inoculation of animals. He must become familiar with the methods of attenuation and the production of immunity, the manner of infection, and the methods of prevention. The importance of sterilization and disinfection are emphasized, and special attention is given to their practical application in veterinary practice and every-day life.

34. **Medicine VI.** Fourth year, spring term. During this session a general review of the most important work of the course is given; also a course of lectures on lameness.

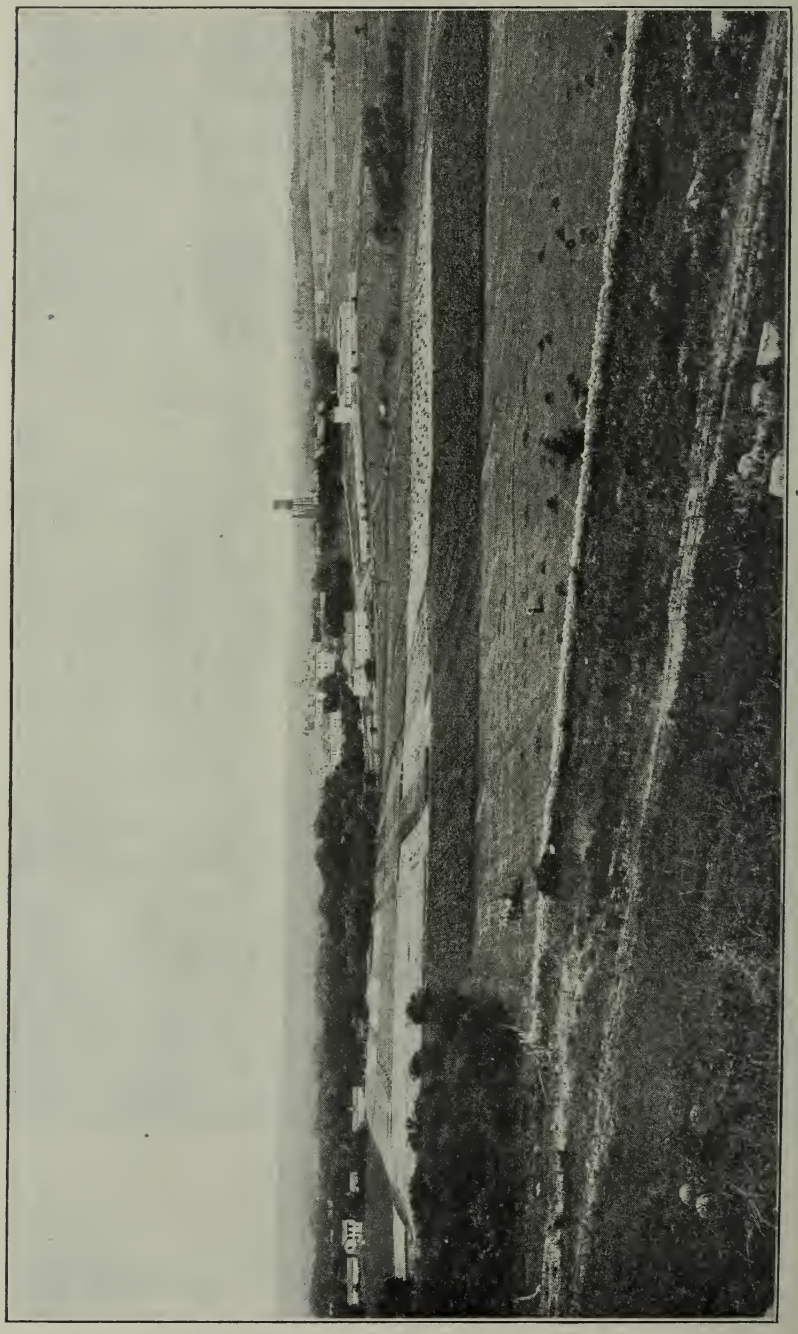
35. **Obstetrics II.** Fourth year, spring term. This course is a continuation of obstetrics I, and considers dystokia from malformation, or malposition of the fetus; embryotomy, vaginal hysterotomy, gastro-hysterectomy or the cæsarean section. Accidents incidental to parturition, including retention of the fetal envelopes, post-partum hemorrhage, inversion of the uterus, vagina and bladder, traumatic lesions of the genital and neighboring organs. Pathology of parturition, including vaginitis, leucorrhea, metritis, metro-peritonitis and parturient fever, parturient apoplexy, parturient collapse, post-partum paralysis, parturient laminitis, mammitis or mastitis, and injuries to the teats; diseases and abnormalities of the young animal, which includes asphyxia of the new-born animal, umbilical hemorrhage, persistence of the urachus, umbilical hernia, edema of the umbilicus, inflammation of the umbilical cord, arthritis, indigestion, diarrhea, retention of the meconium, skin dryness of the new-born animal, imperforation of the anus, vulva, and prepuce; cyanosis. Text-book, Fleming.

36. **Operative Surgery.** Fourth year, spring term. In this course the student gives special attention to the technique of performing the various surgical operations, which includes extractions of teeth, repulsion of teeth,

trephining of frontal and maxillary sinuses, trephining of nasal passages, ligation of parotid duct, entropium operation, staphylotomy, intratracheal irrigation, arytenoidraphy, intravenous injection, phlebotomy with fleams, lancet, and trocar, esophagotomy, puncture of the chest, puncture of the intestine, subcutaneous myotomy for curved tail, caudal myectomy for gripping the reins, urethrotomy, amputation of the penis, vaginal ovariectomy, tenotomy of the flexor tendons of the foot, tenotomy of the lateral extension of the foot (string-halt operation), plantar neurectomy, sciatic neurectomy, anterior tibial neurectomy, resection of the lateral cartilages of the *os pedis*, resection of the tendon of the flexor of the *os pedis*, amputation of the claws of ruminants. The foregoing surgical operations, in addition to being outlined in the recitation work, are performed upon the cadaver by each student pursuing the course, and the majority in the general clinic. Text-book, Williams.



DAIRY TESTING LABORATORY.



EXPERIMENT PLATS.

The Short Courses.

There are large numbers of young people who from lack of means or time are unable to take an extended course of study, but whose usefulness in the world would be much increased by a little special training. Their earning capacity in the household or on the farm is far from what it might be, and they are thus handicapped in the struggle for a livelihood. To bring to this large portion of the "industrial classes," even in small measure, the "liberal and practical education" provided for by the organic act, the College has established certain short courses of study, with practice.

The teaching in these courses, while no whit less accurate than in the others, is upon a different plane. Taking students without scientific or mathematical training, the instruction must be more largely a giving of facts, without an elaboration of the underlying principles which the regular courses afford. The work is intensely practical. Studying such texts as any bright young man or woman can understand, receiving lectures of the same type, and putting into daily practice through industrial exercises the facts and principles learned in the classroom, the student cannot but be greatly benefited. It is hoped, too, that in many cases young people who had thought that they could not afford a four-year course will, by this taste of the advantages and pleasures of an education, be led into the regular courses.

These courses are put at the seasons of the year which seem likely to accommodate the most students, those for young men being given in the winter term, when farm work is more slack, and the young women's course being through the fall and winter. Four such courses are now offered: A dairy course of one winter term; a domestic science course of one fall and one winter term; a farmers' course of two winter terms, and a dairy course of one winter term.

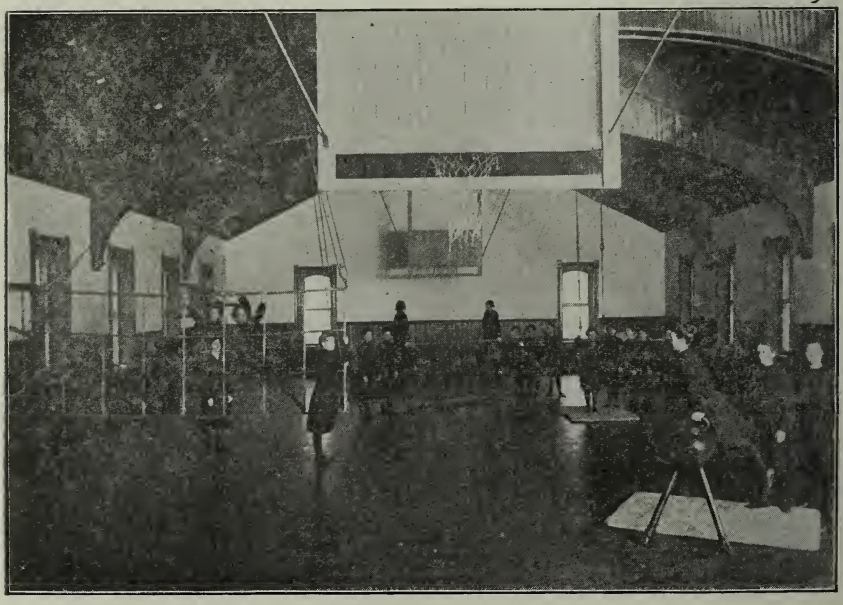
Requirements for Admission.

Persons at least eighteen years of age and of good moral character are admitted to these courses as follows:

Persons between the ages of eighteen and twenty-one will be

admitted upon presentation of common-school diploma, grammar-school certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading, writing, spelling, arithmetic, grammar, geography, physiology, and United States history. Persons over twenty-one will be admitted without examination, but should have sufficient education to enable them to understand the simple text-books used, and to handle readily problems in common and decimal fractions and percentage. They will be required to attend strictly and constantly to their duties, or leave. They have the same free use of the College library that other students have. Owing to the peculiar nature of the work and to the slight degree of preparation which it assumes, *students are required to be present at the very beginning of the course, and those applying later will not be admitted.*

The short courses are in no sense equivalent to the long courses, and no one should take a short course who can take a whole or even a part of one of the long courses. All of the common-school preparatory and freshman branches are taught each term; so that it is possible for one to get nearly all subjects of the first two years by attending during the winter terms only.



WOMEN'S GYMNASIUM.

Domestic Science Short Course.

Fall Term, Twelve Weeks.

Figures following subject indicate hours per week.

Lectures and Practice in Cooking	15
Sewing	15
Drawing	5

Winter Term, Twelve Weeks.

Lectures and Practice in Cooking	13
Home Nursing	2
Physiology and Hygiene	5
Vegetable-gardening and Floriculture	5
Dressmaking	10

First Term.

Lectures and Practice in Cooking. The study of stoves, stove construction, management and fuels are the first topics considered, followed by experiments illustrating the effect of heat upon starch and proteid. The principles are then applied to the cookery of cereals, vegetables, beverages, breads, meats, soups, and simple cake mixtures and puddings. At stated intervals lectures are also given on home sanitation and household accounts.

Sewing. Pupil makes a model book covering the full course in hand sewing, and consisting of basting, gathering, darning, patching, etc. Machine practice, drafting, cutting and making underskirt and drawers; drafting, fitting and making dress without lining; cutting and making corset cover and night-dress. Materials for the model work will be furnished by the College. Each pupil will furnish her own material for the garments, but if sufficient proficiency is shown in making the first garment, pupils may be allowed to take orders for the others.

Drawing. The work in drawing is especially adapted to the needs of this class of students; it will consist of free-hand and geometrical drawing.

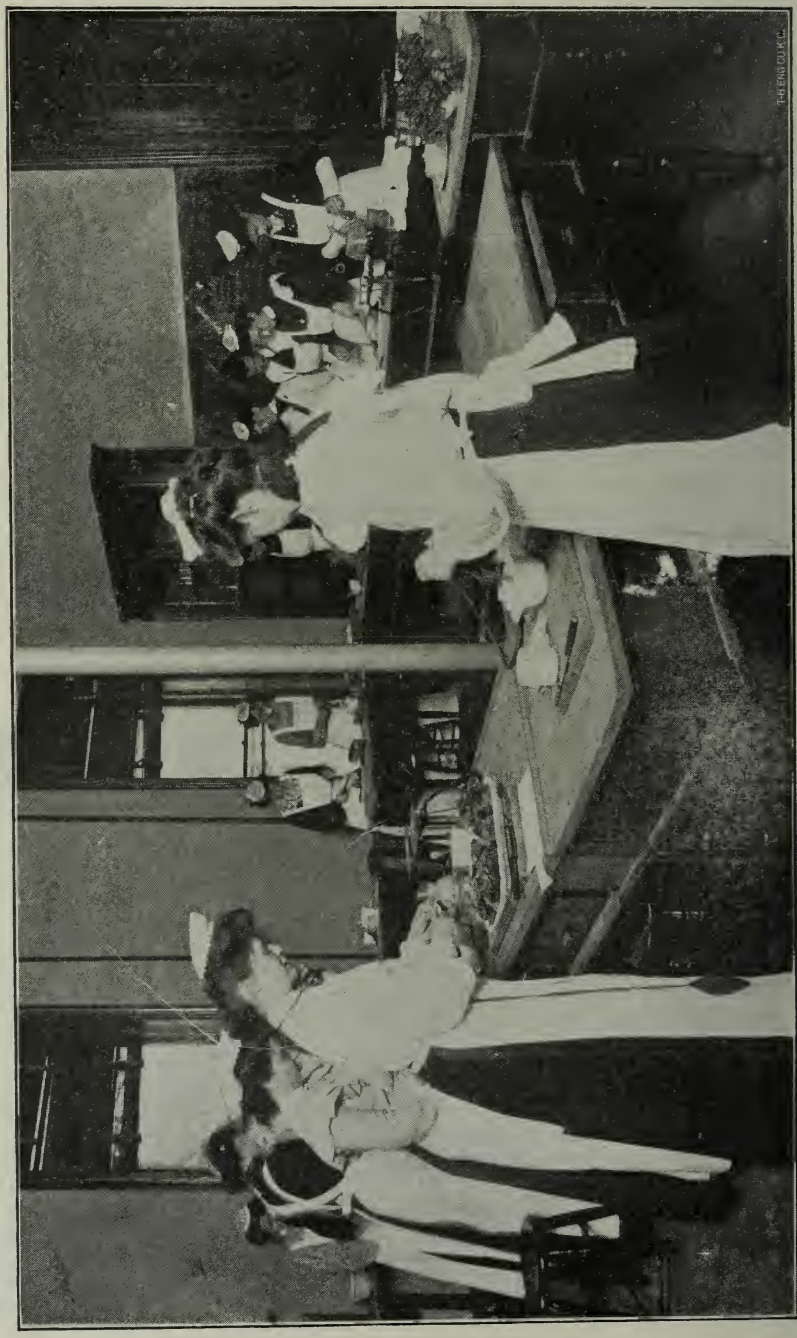
Second Term.

Lectures and Practice in Cooking. Canning, preserving, salads, cakes, pastries, desserts, the planning and serving of meals and invalid cooking are topics considered.

Home Nursing. This implies simple suggestions for the sick-room and its furnishings, and means of adding to the comfort of the sick.

Physiology and Hygiene. Physiology and hygiene of the human body, laws of health and care of the sick.

Vegetable-gardening and Floriculture. The first half of the term is devoted to vegetable growing. Subjects treated include the raising of vegetables for home and for market, with location, soils, manure, tools, irrigation, etc., best suited for crops grown in kitchen- and market-gardens; the construction and manipulation of hotbeds, cold-frames, and winter gardens; the growing of early and late crops, their special treatment, methods of cultivation, planting, transplanting, harvesting, and marketing; a study of varieties suitable to local conditions; and the origin, nature and methods of improvement of vegetables. The last half of the term is devoted to floriculture. Lectures in the classroom are supplemented by practical exer-



DOMESTIC SCIENCE LABORATORY.

cises in the greenhouses and gardens, treating of the propagation and culture of flowers, including the treatment of seeds, cuttings, mixing of soils, potting, repotting, watering, cut flowers, packing, and the many operations that attend amateur and commercial flower-gardening.

Dressmaking. Pupil will be taught the use of a dress-cutting system, cutting, fitting and making woolen dress. Pupil must furnish her own material, and cut and make a dress for herself.

Farmers' Short Course.

First Year, Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Horticulture	5
Carpentry	5

Second Year, Winter Term, Twelve Weeks.

Botany	5
Elementary Physics	5
Farm Mechanics and Management	5
Diseases of Farm Animals	5
Grain Judging	5
Blacksmithing or *Traction-engines*	5

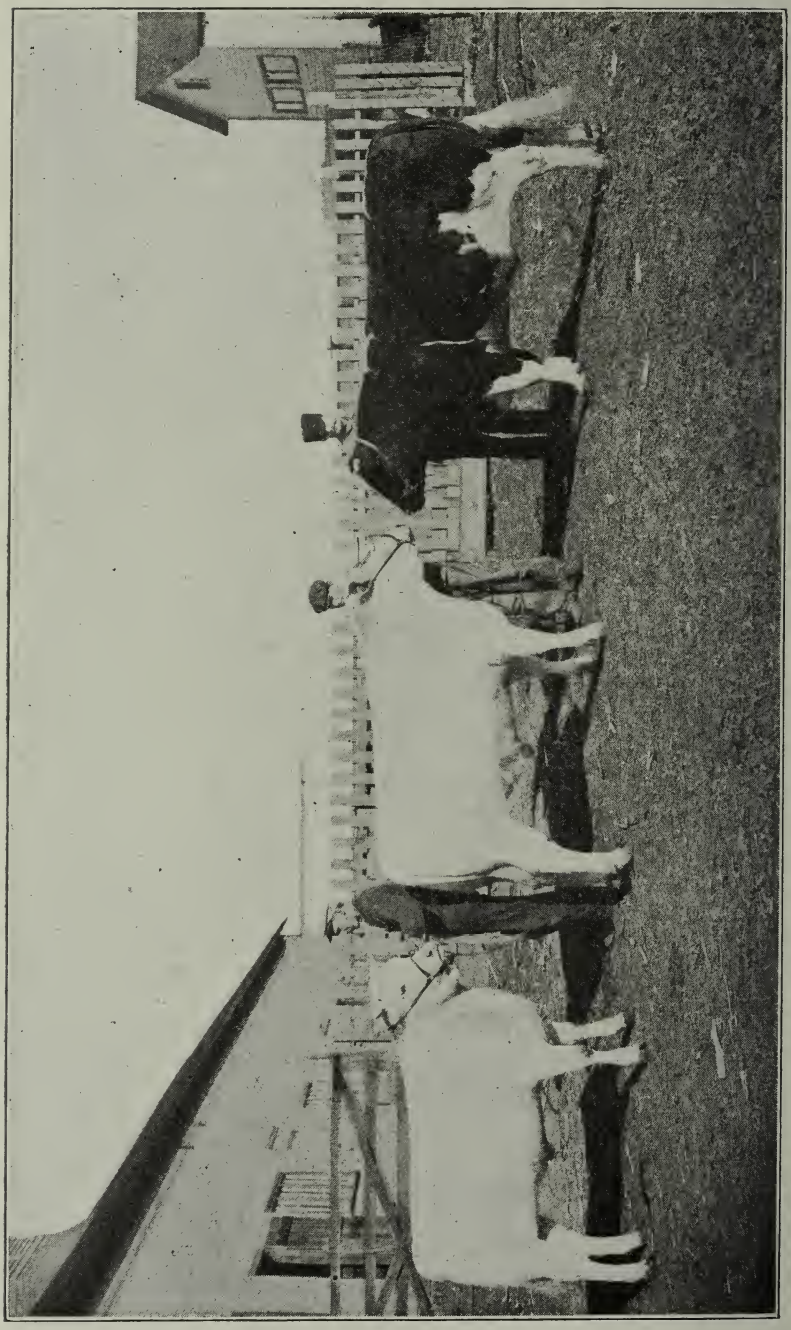
First Year.

Crop Production. A study of the soil—its formation, types or classes, composition, characteristics, uses, physical characters, texture, purposes and problems of tillage, conserving soil moisture, warming, ventilating and draining the soil. The implements of tillage; principles involved in their construction and use. A study of the plant—its relation to soil and climate; its life, growth, and propagation; its root system, principles of seed selection, preparation of seed-bed, methods of cultivation, etc. The fertility of the soil, tillage, manures, fertilizers, and rotation of crops. A study of crops by classes and varieties, as grains, grasses, corn, forage, silage, soiling and root crops; practical methods of culture—saving, feeding, and marketing. Text-book, Bailey's Principles of Agriculture.

Feeds and Feeding. The properties of feed stuffs, and their combination to secure good returns at least cost with products having the desired qualities; effect of feeds on quality of products; construction of farm buildings and appliances to secure the best returns from feed and for saving labor; a study of the feeding on the College farm. Text-book, Henry's Feeds and Feeding.

Breeds of Live Stock. A study of the market types of live stock; history and characteristics and adaptability of the breeds of live stock; selection and judging of live stock according to the official standards; forms as an index to qualities; practice in tracing out pedigrees. Text-books, Shaw's Breeds of Live Stock, Craig's Stock Judging.

Stock Judging. Practice work. Practice in judging chickens, beef cattle, dairy cattle, hogs, horses and sheep according to official standards.



PRIZE CATTLE.

Horticulture. General principles underlying plant growth; structure and functions of the various parts of the plants; nutrition, formation of seeds, etc.; propagation by seedage, cuttage, graftage, and layerage; environment, including the effects of temperature, light, food- and water-supply; possibilities of improvement by cultivation, training, and selection. Text-book, Goff's Principles of Plant Culture.

Carpentry. Elementary woodwork in joinery and construction, followed by general woodwork and carpentry; care and use of farm machinery; the building of frame structures, such as stables, piggeries, poultry-houses, ice-houses, and farm creameries, will be given, both by lectures and practical work.

Second Year.

Botany. The laws of plant growth which have a direct bearing upon the raising of grasses, grains,, clovers, forage-plants, and weeds; a study of the common fungi that affect cultivated plants; seed testing; practical methods of farm seed-breeding.

Elementary Physics. This course is designed to give the student a knowledge of the fundamental principles upon which the various physical phenomena depend. The course does not provide laboratory practice. Numerous class demonstrations illustrate the various subjects of mechanics, hydrostatics, heat, light, sound, etc.

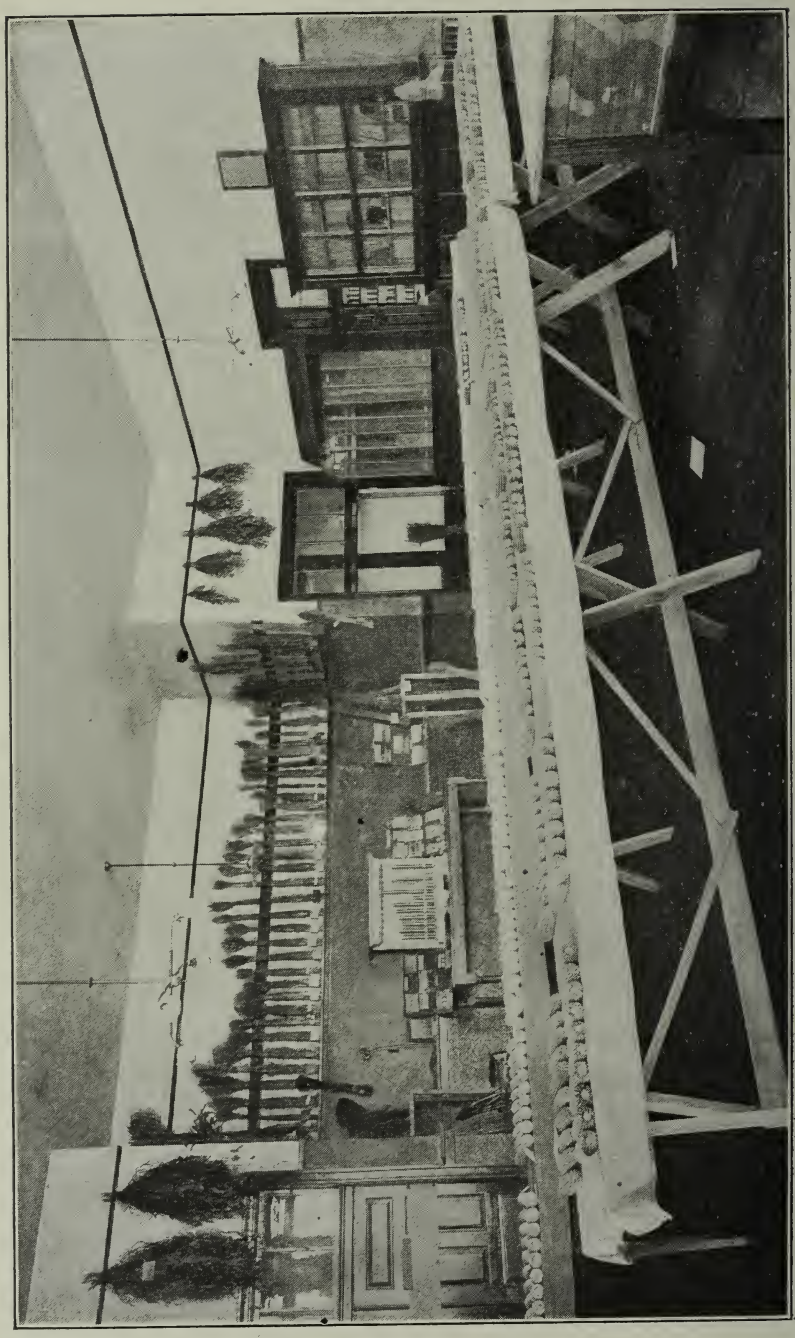
Farm Mechanics and Farm Management. The first half of the term will be devoted to rural engineering and farm machinery, and will include laying out of the farm, as regards the selecting of building sites, location of farm buildings, division of the farm into fields, and plans for crop rotation; the construction of buildings and works as to the principles of construction, plans, specifications and estimates of the cost of farm buildings, and the water-supply, sewerage, drainage, roads, fences, etc.

Several lectures will be devoted to the elements of machines, disclosing the principles involved in the use of the lever, evener, wheel and axle, pulley, inclined plane, and wedge. The several classes of farm machinery will be taken up in their order and studied as to the principles of construction and use of each machine, and attention will be given to the operation, care and repairing of farm machinery, and to the building of machinery sheds.

During the latter half of the term, instruction and practice work will be given in keeping farm accounts, and in the application of business methods to farm operations. Economic questions relating to the employment and management of farm help, outlay for farm equipment, buildings, and improvements, the buying of machinery and marketing of crops, will receive attention. Some instruction will be given in simple questions of rural law, relating to property, deeds, leases, contracts, water-rights, line fences, notes, bills of sale, mortgages, interest, taxes, etc. Text-book, Robert's Farmers' Business Handbook.

Diseases of Farm Animals. The common ailments of farm animals are discussed, their causes and symptoms explained, and preventives and remedies suggested. Inoculation against blackleg will be performed by the student in this course.

Grain Judging. This will be a continuation of the study of crop production, and will consist mainly of work in the judging-room, in scoring corn

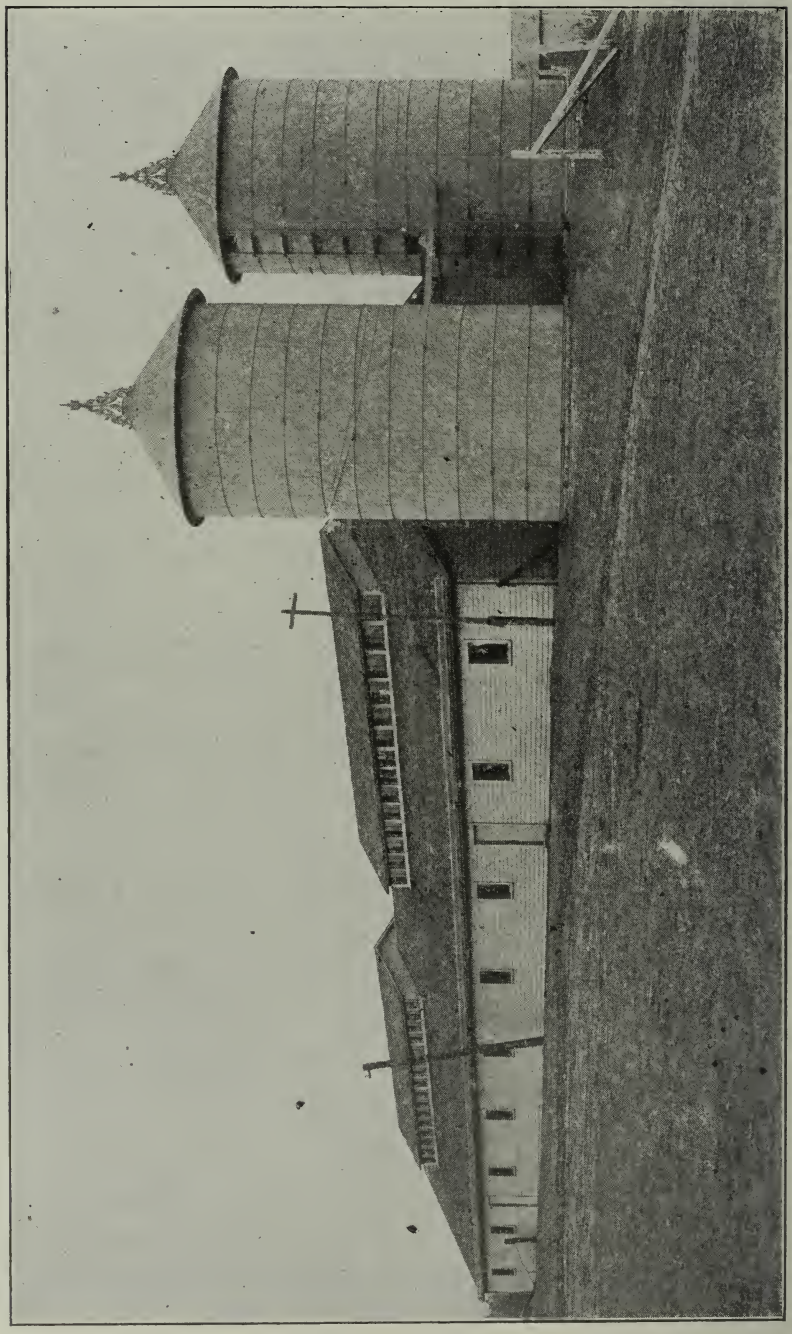


GRAIN JUDGING ROOM.

and the common cereals according to inspectors' and buyers' standards or according to recognized standards of perfection. Lectures and quizzes will be given, explaining the work in the judging-room. A special study will be made of corn in the selection of seed ears. Very few farmers will select a "good" ear of corn before they have been carefully instructed and trained to note defects and vital points. It is necessary to know the characteristics of a breed and its recognized standard of perfection before one can intelligently select breeding animals. This is true also of a variety of corn or wheat, and the improved qualities of higher protein, greater vitality and larger productiveness which may be bred into corn by careful and intelligent selection should greatly increase the value of this crop to the farmer.

Blacksmithing. Forging and welding, construction of singletree clips, wagon ironing, clevises, horseshoes, sharpening and tempering plows and tools, general repair work. Advanced work is also offered in the care and management of boilers and engines. If the student desires, he can make a forge and set of blacksmith tools to take home with him, paying only for the iron used.

DINNER-TIME.



DAIRY BARN AND SILOS.

Farm Dairy Course.

Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Dairying	5
Crop Production	5
Feeds and Feeding	5
Breeds of Live Stock	5
Stock Judging	5
Carpentry	5
Dairy Practice	5

Dairying. Milk—its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns, and butter-workers, aerators, heaters, sterilizers, milk and cream vats, factory cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may test the work of the different modes of separators, churns, etc.

The remainder of this course is the same as the first year of the farmers' short course.

Dairy Course.

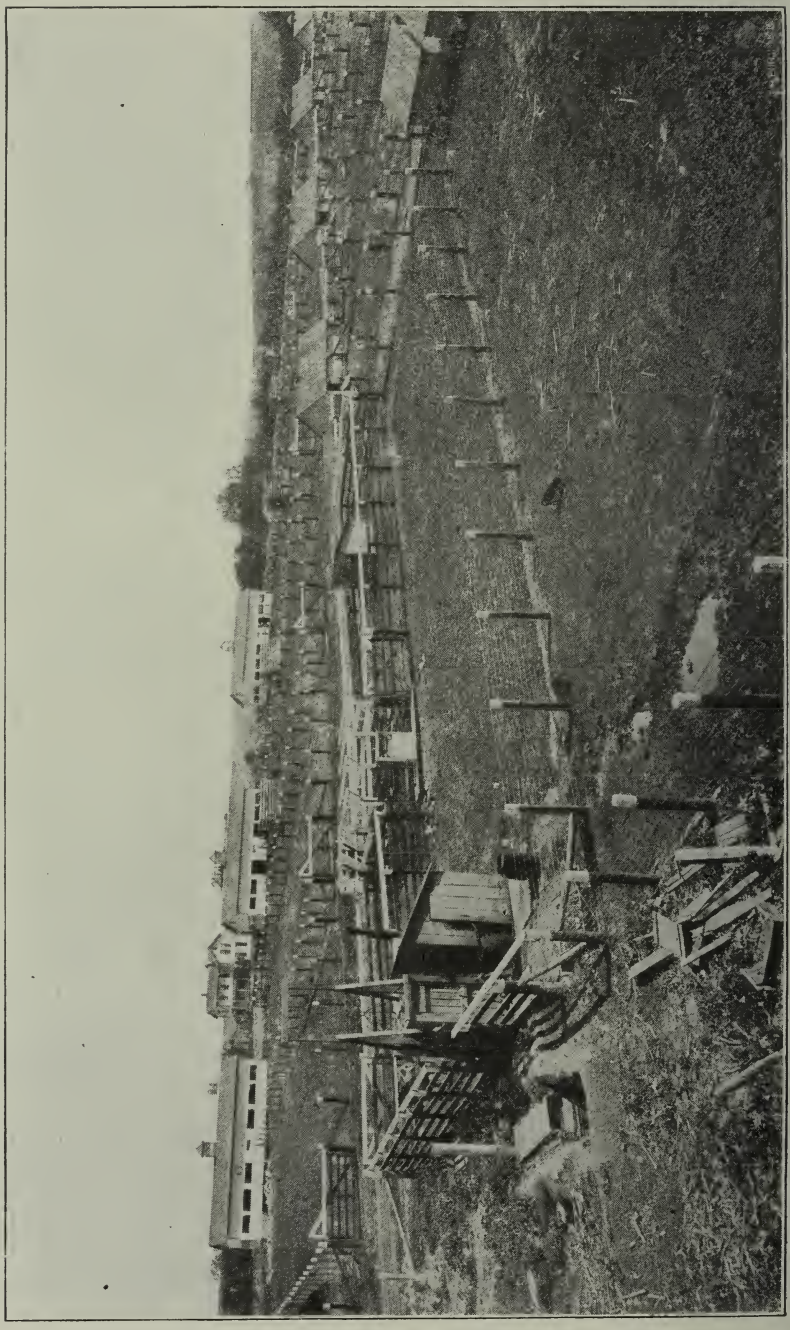
Winter Term, Twelve Weeks.

Figures following subjects indicate hours per week.

Dairying	5
Feeds and Feeding	5
Diseases of Dairy Animals	2½
Bookkeeping	2½
Butter- and Cheese-making	5
Dairy Practice	10
Boiler and Engine	5

Dairying. Milk—its secretion, nature, and composition; causes and conditions influencing the quantity and quality of milk; testing of glassware used in the dairy; testing of the quality of milk, cream, buttermilk, and skim-milk. Text-book, Wing's Milk and its Products.

Feeds and Feeding. Properties of common feed stuffs; their effect on the character and yield of milk and butter; adaptation and combination of feeds to meet the needs of dairy cows; effect of feed on quality of product; preparation of feeds and methods of feeding; compounding of dairy rations to secure the best yield at least cost. Study of the feeding of the College dairy herd; the dairy farm and care and management of dairy herd. Text-book, Henry's Feeds and Feeding.



FEED LOTS.

Diseases of Dairy Animals. The common ailments of calves and dairy cows are discussed and their causes and symptoms explained, remedies and preventives suggested, all from a practical farmer's standpoint. During the dairy school the College herd will be tested with tuberculin and the students taught how to make the test.

Bookkeeping. Practice in bookkeeping that will enable the student to understand the underlying principles, followed by training in keeping books for farm, dairy and creamery accounts.

Butter- and Cheese-making. The handling of the milk for the market and for butter-making, including milking, straining, aerating, cooling, preserving, and shipping; testing; creaming of milk by the separator; cream-ripening and butter-making. Construction and management of skimming stations and creameries; methods of handling farm-separator cream; methods of dealing with patrons. The handling of milk for cheese-making; contamination, aeration, enzymes, rennet, making of cheddar cheese, cutting and heating curd, drawing whey, dripping and milling the curd, salting and pressing the curd, curing and packing the finished cheese, construction of cheese factories. Swiss, Limburger, Edam and cottage cheese. Textbooks: Decker's Cheese-making, Wing's Milk and its Products, Farrington and Woll's Testing Milk and its Products. Lectures.

Dairy Practice. Practice in handling milk and its products from the time it leaves the cow until it is marketed as butter, cheese, or sanitary milk. Students may choose either creamery butter-making, cheese-making, or private dairying. Thorough instruction and practice will be given in all three of these lines. The dairy-room is fully equipped with hand and power separators, Babcock tests, churns and butter-workers, aerators, sterilizers, milk and cream vats, factory cheese apparatus, Mann's acid tests, and other needed apparatus. Many manufacturers have volunteered to loan us machinery, so that the dairy students may make test of the work of the different makes of separators, churns, etc.

Boilers and Engines. Lectures and practice in the firing of boilers, care and running of engines, pumps, etc.; practice in shops.

Summer Course in Domestic Science.

First Summer Term.

Figures following subjects indicate hours per week.

Domestic Science	15
Sewing	10
Floriculture	5

Second Summer Term.

Domestic Science	5
Household Economics	5
Dressmaking	10
Bacteriology	5

This course will begin May 21, 1907, and close July 26.

This course was instituted to meet the needs of teachers in the public schools. Completion of one summer's work entitles to a one-year certificate to teach domestic science in the state; two summers' work entitles to two-year certificate. Only teachers now holding county or state certificates can enter these classes.

The teaching follows the same general line as in the regular course, with the exception that more stress is laid upon the methods of presentation to young students. There are daily lectures and recitations on the theoretical portion and the laboratory experiments in cooking. The sewing is the same as that taught in long course under sewing I, sewing II, sewing III, and dressmaking.

Y. M. C. A. CABINET.

Young Men's Christian Association.

"See that he (the college student) is in the fullest sense a man and a good man."—PRESIDENT ROOSEVELT.

"Character is of more importance than education."—PRESIDENT SCHURMAN, *of Cornell University.*

"The young men going to college will be the leaders of society in the future. If they leave the college as earnest Christians, they will exert good influence throughout their lives."—HON. JAMES WILSON, *United States Secretary of Agriculture.*

"It is a holy mission to reform a boy or man after he has gone wrong, but it is still better to save him from going wrong."—HON. ALBERT B. CUMMINS, *Governor of Iowa.*

OBJECT: The Young Men's Christian Association is organized for service. Any young man in the College who is of good moral character may belong. Although its distinct function is religious, it is not exclusively such. Active membership is limited to those belonging to evangelical churches, while those young men who are not church members but who believe in good, clean living may join as associate members.

HEADQUARTERS. In the fall of 1903 the association rented what is known as Park Place, situated at the corner of Ninth and Fremont streets. This building contains twenty-eight rooms for students, with bath-rooms, etc. It is heated by steam and lighted by electricity. In one end of the building there is a large, well-lighted parlor, used by the association for its regular Sunday afternoon meetings, for a reading and game-room, and for social headquarters. This room is open to all students of the College.

NEW-STUDENT WORK. New students are met at trains, taken to headquarters, and assisted to find rooms. A handbook published by the two associations and containing valuable information to the new student is given to each one. At the College, in the main building, an information bureau is kept during the first few days of College. The parlors of the Young Men's Christian Association house are wide open for each new student. Every evening of the opening days special amusements are offered. A "stag" social is given to all new men on one of the first evenings of the term.

Employment Bureau. Students are assisted to find work free of charge. This work is under the supervision of the general secretary, assisted by an employment bureau committee.

Bible Study. The association offers three or four Bible study courses. A regular systematic course is studied. The classes meet once a week, under student leaders. Three hundred and eighty men were enrolled in thirty different classes during the past year. A force of forty men will prepare themselves during the summer to lead classes during 1906–'07. The plans of the Bible study committee call for 500 men.

Mission Study. Several courses in the study of missions will also be offered by the association. Many men have received a broad general knowledge of foreign lands by this study.

Regular Meetings. The association holds its regular meetings on Sunday afternoon, in the parlors of headquarters. These meetings are generally led by different members of the Faculty, by business men down town, or by outside speakers. A mid-week prayer-meeting led by students is held on Thursday evenings.

Socials and Receptions. From time to time socials and receptions are held. These serve to draw the men closer together. At the beginning of the fall and winter terms there is given a social especially planned for the new students.

Correspondence. The association employs a general secretary on full time. Any prospective student who desires information not contained in this catalogue may feel free to write to him. Address, General Secretary of the Young Men's Christian Association, Manhattan, Kan.

Young Women's Christian Association.

The American Student Young Women's Christian Association consists of 450 student associations, with a total membership of 27,110, and with an enrolment of 16,349 in Bible classes during the year 1905-'06. In many institutions the enrolment has been doubled during the past year, and this has been true of our association.

What college organization offers a better training for the responsibilities of life than the Young Women's Christian Association? It is based upon the fundamental principles of Christianity, and seeks to create a sentiment for all that is pure and true and noble. It seeks to organize and unite all the Christian forces of the College for practical work. It is composed of the best young women in college—those who are leaders in their studies. It is strongly supported by the members of the Faculty, Board of Regents, and by the students in general.

Some of the important features of the work in our College:

1. The fall campaign committee, who meet the new girls at the train and assist them in getting located and started right in College.

2. The lookout committee, who care for those who may be ill or need special care.

3. Weekly devotional meetings, which are a source of inspiration to higher ideals.

4. Prayer circles, Bible study and mission study classes, which broaden the view of Christian work.

5. Opportunity for social development through socials or receptions given each month by the social committee.

6. Opportunity for doing active Christian work among College girls.

7. A general secretary, the employed officer of the association, and the advisory committee, which consists of Faculty ladies and others especially interested in the work, sustain a general advisory relation to the officers of the association and assist them in broadening and carrying out their plans of work.

8. A Young Women's Christian Association home is maintained, where all girls will be welcomed. Should no one meet you when you arrive in the city, come to the home, where some one will be ready to assist you.

All young women contemplating attending College are invited to write to the general secretary in regard to the association or for information concerning the College not found in this catalogue.

Y. W. C. A. CABINET.

General Information.

Terms of Admission.

Persons over fourteen years of age will be admitted in any of the following ways:

1. Kansas teacher's certificate, provided no subject is below seventy per cent.
2. Diploma received on completion of a county course of study.
3. Certificate of passing the grammar grade or diploma from the high school of any city or county.
4. Pass a satisfactory examination in reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology.

Persons over eighteen years of age will be admitted to the preparatory classes if unable to pass the common-school branches.

Full admission to the first year, in addition to the common-school branches—reading, spelling, writing, geography, arithmetic, United States history, English grammar, and physiology—requires bookkeeping, advanced English grammar, English readings, English composition, algebra through progressions, physical geography, elementary botany, ancient and medieval history. (See Preparatory Department, page 115.)

It is quite possible for a good student who enters somewhat behind to make up his deficiency in a year or two and graduate in four years.

All of the preparatory and first-year studies are taught each term, and nearly all of the second-year subjects; so that a person may enter at the beginning of any term and find work suited to his advancement.

Examinations for admission are held at the beginning of each term. Applicants at other times during the school year have special examinations. These examinations are chiefly written, and a grade of seventy per cent., at least, must be obtained to pass a study.

On entrance, applications for advanced standing in the courses or for credits for certain studies in the courses may be made through the chairman of the committee on examinations. Students desiring credit for work done elsewhere must bring certificates and catalogues to show that the work done is equivalent to ours. The

right is reserved to cancel any credits if the work of the student in succeeding branches shows insufficient preparation. After entrance, such applications should be made to the professor in charge of the study. In any case the applicant will be required to pass such an examination as the professor in charge deems necessary.

Examinations.

Examinations in the courses are held twice each term, as announced in the calendar. The results of the examinations, marked on a scale of 100, are combined with the grades of the preceding daily exercises into a grade for the period. Grades reported to the Secretary for record are made up by giving the mid-term record a value of one-third and the record for the last half of the term a value of two-thirds. For passing a study, the mean grade so calculated must be at least seventy. Any student receiving less than a passing grade on two or more studies may be required to drop back or withdraw from the College. Any student may receive a certificate of standing, upon leaving College at the close of a term.

Students deficient in entrance studies must make good such deficiencies before entering on the work of the second year. Students are not catalogued in the junior class unless all deficiencies of the preceding years are provided for. Candidates for graduation must make good all deficiencies before entering on the work of the spring term of the fourth year. No student is considered as a candidate for graduation who, after the opening of the fall term, is deficient more than three full studies in addition to regular work. Extra work is not allowed to any student who failed in any branch the preceding term, or whose average grade for all branches was less than eighty.

A student receiving less than sixty per cent. in any subject shall not be allowed a special examination in that subject, but shall be required to pursue it in class at the first opportunity. A mark of sixty per cent. or over, but less than seventy per cent. shall be called a condition. A student receiving a condition in any subject shall, in case the subject is susceptible to an examination, be entitled to take the condition examination in that subject at the time and place regularly appointed for it. He shall not take a condition examination at any other time or place except by two-thirds vote of the Faculty. It shall be the duty of the student receiving a condition to learn the time and place set for the condition examination and be present at that examination without any notification from his instructor or assignor. In subjects not susceptible to ex-

amination, conditions shall be made up at the time and in the manner determined by the head of the department in which the subject is taught. Condition examinations shall be held on entrance examination day at opening of fall and winter terms, and on the third Monday of the spring term, for the subjects of the preceding term. A condition not made up at the first opportunity shall be changed to a failure and the student be required to repeat the subject in class.

A student receiving a condition may, in the judgment of the assignor, be assigned to dependent subjects. Shall he fail to make up the condition at the time set, he shall be required to drop the dependent subjects and be given no grade for the work he has done. In industrial work, the instructor may withhold the grade of any student and send in a mark of deficient when the quality of the work done by the student is satisfactory but the quantity is not. A deficiency shall be made up when the student has completed the required quantity of work in a satisfactory manner. A deficiency may be made up outside of class, but shall be made up by the end of the fourth week of the term following that in which it was made, or be changed to a failure and the student be required to repeat the subject.

Permission for examination in studies not pursued with a class must be obtained from the committee on assignments, and on recommendation of the professor in charge, at least two months before the examination is held. All such examinations are held under the immediate supervision of the professor in charge, and are thorough and exhaustive.

Regulations in Regard to Substitutions.

With the seven regular courses that the College now offers, most of the requirements of students are met. For one reason or another, however, some students find it necessary or desirable to substitute something else for the work that their respective courses would require. To place such substitutions on a systematic basis, the following regulations have been adopted by the Faculty:

1. Substitutions shall, as far as practicable, give training similar to that of the work displaced.

2. No student shall be allowed a substitution for work in which he has failed.

3. Unless made necessary by the acts of the Board of Regents or of the Faculty, substitutions shall not be allowed: (*a*) To students who are below the third year; (*b*) to students who have

failed in any study of the two terms' work immediately preceding; (*c*) unless arranged for in advance.

4. Students desiring to substitute other work for any requirement in their respective courses of study must present written requests to the committee on assignments.

5. When a request for substitution is made by any student, the committee on assignments shall consult with all of the professors whose work is touched by the proposed substitution, and if unable to agree with them the case shall be submitted to the Faculty.

6. All substitutions arranged by the committee on assignments shall be reported to the Faculty by posting on the Faculty bulletin-board, and if not objected to within one week shall be reported to the Secretary for record in the students' register.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged to the formation of sound character by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Monday, and no student may be absent without excuse. Students cannot honorably leave the College before the close of a term, unless excused beforehand. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and absence from them is noted.

There are nine prosperous literary and scientific societies, which meet weekly in rooms set apart for their use—the Alpha Beta and Franklin, open to both sexes, and the Ionian and Eurodelphian for young women. The Webster, the Hamilton, the Agricultural Association, the Engineering Association and the Architectural Club admit to membership young men only.

At various times during the year the College halls are opened for social and literary entertainments for the whole body of students, or for classes. For the last eight years the students have organized and presented courses of entertainments, which have been of high value, and of moderate expense to each individual.

Earning One's Way.

The courses of study are based upon the supposition that the student is here for study, and a proper grasp of the subjects cannot be obtained by the average student unless the greater part of his time is given to college duties. Students in strained circumstances are encouraged and aided in every way possible, but unless exceptionally strong, both mentally and physically, are advised to take lighter work by extending the course, if obliged to give any considerable time to self-support. As a rule, a student should be prepared with means for at least a term, as some time is necessary for one to make acquaintances and learn where suitable work may be had.

The lines in which employment may be had are various. The College itself employs student labor to the extent of about $1200 per month, the rate paid being ten cents per hour. This work is on the farm, in the orchards and gardens, in the shops and printing-office, for the janitor, etc. As one's ability and trustworthiness become established, more responsible and more remunerative work may be had, to a limited extent. Many students obtain employment in the town; some work for their board in families in town or in the country near the College. Labor is everywhere respected, and the student who earns his way is honored by all. He will necessarily have little time for the lighter pleasures that may be incident to college life.

Expenses.

Tuition is Free. An incidental fee of $3 per term will be charged all students from Kansas. Students from outside of Kansas will be charged an incidental fee of $10 per term, and an enrolment fee of $10. Each student must present receipt for incidental fee before enrolment in classes. Rooms, board and washing are not furnished by the College. Board, with furnished room, can be procured in private families at $2.50 to $3.50 per week, or table board in student clubs from $2.25 to $2.50 per week. Furnished rooms, without board can be obtained at from $3 to $5 per month. Some students board themselves at even less cost, and rooms for the purpose can be obtained at a rent of from $1 to $3.50 per month. Washing costs from 50 cents to 75 cents per dozen. Books cost about $3 per term. Young men of the freshman and sophomore years will be required to have military uniforms costing about $16, and the young women of the freshman year must have a physical-training suit costing about $3. Ordinary expenditures, aside from

clothing and traveling expenses, range from $100 to $200 per year. No institution in the state furnishes an education at less cost to the student.

Business Directions.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained from the President or the Secretary.

Questions, scientific or practical, concerning the different departments of study or work, may be addessed to the several professors and superintendents.

Loans upon school-district bonds are to be obtained from the State School-fund Commission.

Bills against the College should be presented monthly, and, when audited, are paid from the office of the state treasurer.

All payments of principal and interest on account of bonds or land contracts must be made to the state treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The *Industrialist* may be addressed through Pres. E. R. Nichols, managing editor.

Donations for the library should be sent to the Librarian; donations for the museum, to the curator of the museum.

Applications for farmers' institutes should be made as early in the season as possible, addressing Institute Department, Kansas State Agricultural College.

Applications for the publications of the Experiment Station, and general inquiries concerning its work, should be addressed to Agricultural Experiment Station; but correspondence concerning any special line of investigation should be sent to the member of the Council in charge of the work concerning which information is desired.

Students.

Graduates.

Candidates for Master's Degree, 1906.

William Anderson, B. S. '98.....*Physics, Mathematics.*
Manhattan, Riley county.

George Adam Dean, B. S. '95.....*Entomology, Horticulture, Botany.*
Manhattan, Riley county.

Oscar Hugo Halstead, B. S. '95.....*Physics, Mathematics.*
Manhattan, Riley county.

K. Elizabeth Sweet, B. S. '04.....*Domestic Science, Bacteriology.*
Burlington, Coffey county.

In Course Leading to Master's Degree.

William H. Goodwin, B. S. '05.....*Entomology, Horticulture.*
Detroit, Dickinson county.

Roland McKee, B. S. '00.....*Horticulture, Botany.*
Blue Rapids, Marshall county.

Charles Wesley Melick, (Uni. of Neb.)..*Dairying, Bacteriology.*
Manhattan, Riley county.

Leonard Marion Peairs, B. S. '05.....*Entomology, Horticulture.*
Lawrence, Douglas county.

Roy A. Seaton, B. S. '04.....*Mechanical Engineering, Mathematics.*
Jewell, Jewell county.

Helen B. Thompson, B. S. '03.....*Domestic Science, German, Horticulture.*
Wamego, (Wabaunsee county).

NON-RESIDENT.

Frederick W. Wilson, B. S. '05.....*Animal Husbandry, Crop Production.*
Hill City, Graham county.

In Advanced Work Not Leading to a Degree.

Delmar Akin, B. S. '01.....*Bacteriology, Histology.*
Manhattan, Riley county.

Pearl Akin, B. S. '05.....*German, Public Speaking, Music.*
Manhattan, Riley county.

Grace Allingham, B. S. '04.....*Domestic Science, German, Music.*
Manhattan, Riley county.

Scott Stuart Fay, B. S. '05.....*Chemistry.*
Wilsey, Morris county.

James Henry Johnson, B. S. '05.....*Physics.*
Manhattan, Riley county.

Julia Anna Monroe, B. S. '04.....*Botany, German, Zoology.*
Whiting, Jackson county.

Mary Mudge, B. S. '05.....*German, History.*
Manhattan, Riley county.

Arthur J. Rhodes, B. S. '05.....*Physics.*
Manhattan, Riley county.

Alice Myrtle Shofe, B. S. '97.....*Philosophy, Drawing.*
Manhattan, Riley county.

Crete Spencer, B. S. '05.....*Drawing, Music.*
Manhattan, Riley county.
Blanche Stevens, B. S. '05.....*Drawing, Music, Domestic Science.*
Humboldt, Allen county.
Gertrude Ella Stump, B. S. '96.....*Music.*
Manhattan, Riley county.
Lois Stump, B. S. '03.....*German, Music.*
Manhattan, Riley county.
Jessie A. Sweet, B. S. '05.....*Domestic Science.*
Manhattan, Riley county.
Harry Castle Turner, B. S. '01.....*Horticulture, German.*
Manhattan, Riley county.
Elsie Lucile Waters, B. S. '98.....*Philosophy, Music, Physical Training.*
Manhattan, Riley county.
Ella Weeks (Kansas University).....*Zoology.*
Lincoln, Lincoln county.
Flora Wiest, B. S. '91.....*German, Music.*
Manhattan, Riley county.
(Mrs.) Grace (Enfield) Wood, B. S. '05..*Mathematics, Music.*
White City, Morris county.

SENIORS.

Name.	Post-office and county (or State).
Kate Alexander,	Welda, Anderson.
Albert Clay Aumann,	Geuda Springs, (Cowley).
Alfred Henry Baird,	Minneapolis, Ottawa.
Jesse N. Bealey,	Morrill, Brown.
Raymond Russell Birch,	Manhattan, Riley.
Herbert Jefferson Bottomly,	Manhattan, Riley.
Flora Edna Brenner,	Manhattan, Riley.
Byron Broom,	Bennington, Ottawa.
Frank E. Brown,	Highland, Doniphan.
John Willard Calvin,	Manhattan, Riley.
Stella Campbell,	Goodrich, Linn.
Will Ward Campbell,	Emporia, Lyon.
Torje Carlson,	Almena, Norton.
Robert Archer Cassell,	Manhattan, Riley.
James Hamilton Cheney,	Great Bend, Barton.
Edith E. Coffman,	Manhattan, Riley.
William Irving Coldwell,	Oxford, Sumner.
Archie Conner,	Lyons, Rice.
Jessie Leona (Travis) Cook,	Oakley, Logan.
Perry Alfred Cooley,	Manhattan, Riley.
Ruth Cooley,	Manhattan, Riley.
Mary Copley,	Manhattan, Riley.
Edward Andrew Cowles,	El Dorado, Butler.
Winifred Anna Dalton,	St. George, Pottawatomie.
Charles Ernest Davis,	Parsons, Labette.
Jay L. Dow,	Manhattan, Riley.
Odessa Della Dow,	Manhattan, Riley.
Arthie Aileen Edworthy,	Solomon, Dickinson.
Leonard Roscoe Elder,	Osage City, Osage.

Name.	Post-office and county (or state).
Harriet Marie Esdon,	Olsburg, Pottawatomie.
Earl Joy Evans,	Jewell, Jewell.
Smith Faris,	Denison, Jackson.
Arba C. Ferris,	Conway, McPherson.
M. Edith Forsyth,	Dwight, Morris.
Eva May (Rickman) Gilbert,	Manhattan, Riley.
Charles A. Gilkison,	Larned, Pawnee.
William Thomas Gilliford,	Olsburg, Pottawatomie.
Frank W. Grabendike,	Ottawa, Franklin.
Lewis M. Graham,	Turon, Reno.
Rennie Green,	Lincoln, Lincoln.
Elbert Ernest Greenough,	Bennington, Ottawa.
David H. Gripton,	Smith Center, Smith.
Roswell Leroy Hamaker,	Manhattan, Riley.
Mary L. Hamilton,	Monmouth, *Illinois.*
Boline Hanson,	Jamestown, (Republic).
Daisye Ina Harner,	Manhattan, Riley.
Lola May Harris,	Harveyville, Wabaunsee.
Raymond D. Harrison,	Jewell, Jewell.
Milo M. Hastings,	Effingham, Atchison.
Clarence L. Hawkinson,	Marquette, McPherson.
Leslie Eugene Hazen,	Centralia, Nemaha.
Harry Russell Heim,	Lincoln, Lincoln.
Gertrude Elma Hole,	Manhattan, Riley.
Harvey B. Hubbard,	Beloit, Mitchell.
Nellie Dorothy Hughes,	Topeka, Shawnee.
William Harry Imes,	Aurora, Cloud.
Helen C. Inskeep,	Manhattan, (Pottawatomie).
Charles Sumner Jones,	Moran, Allen.
Clara Myrtle Kahl,	Manhattan, Riley.
Fredric Arthur Kiene,	Valencia, Shawnee.
Clarence Brady Kirk,	Burr Oak, Jewell.
Percy E. Lill,	Mount Hope, Sedgwick.
Laura Lillian Lyman,	Manhattan, Riley.
Charles Wilber McCampbell,	Manhattan, Riley.
Cora E. McNutt,	Ottawa, Franklin.
Alma McRae,	Goodrich, Linn.
Ernest Wilson Matherly,	Manhattan, Riley.
Henry Greenleaf Maxwell,	Kansas City, Wyandotte.
Caroline Morton,	Topeka, Shawnee.
Verda Ellen Murphy,	Manhattan, Riley.
Ruth Emma Neiman,	White Water, Butler.
Ross N. Newland,	Groveland, McPherson.
Henry Otto,	Manhattan, Riley.
John J. Peckham,	Courtland, Republic.
Myron A. Pierce,	Manhattan, Riley.
Martha S. Pittman,	Hammond, Bourbon.
George Percival Potter,	Peabody, Marion.
Lester Allen Ramsey,	Topeka, Shawnee.

Name.	Post-office and county (or state).
Richard Reece,	Lawrence, Douglas.
Jessie A. Reynolds,	Cawker City, Mitchell.
Emmit D. Richardson,	Glen Elder, Mitchell.
Nellie Eva Rickman,	Manhattan, Riley.
Jennie Inez Ritner,	Manhattan, Riley.
Ramer Henry Sanneman,	Clay Center, Clay.
William Paul Schroeder,	Lebanon, Smith.
Martin Roy Shuler,	Clifton, Washington.
Emily G. Smith,	Childress, *Texas.*
Milton David Snodgrass,	Manhattan, Riley.
Mabelle Sperry,	Neodesha, Wilson.
George A. Spohr,	Manhattan, Riley.
Julia C. Spohr,	Manhattan, Riley.
Henry Adam Spuhler,	Manhattan, Riley.
Orin A. Stephens,	Blue Rapids, Marshall.
Albert D. Stoddard,	Manhattan, Riley.
Ernest Felix Swanson,	Hollis, Cloud.
Elbert Wren Thurston,	Manhattan, Riley.
Warren Bunn Thurston,	Manhattan, Riley.
Doris M. Train,	Manhattan, Riley.
Marcia Elizabeth Turner,	Rock Creek, Jefferson.
Warren Elmer Watkins,	Anthony, Harper.
Chauncey Iles Weaver,	Wakefield, Clay.
Ralph Richard White,	Newton, Harvey.
Thomas F. White,	Manhattan, Riley.
Edgar M. Wilson,	Eatonville, Cowley.
Charles H. Withington,	Manhattan, Riley.
Thomas M. Wood,	White City, Morris.
Edith Worden,	Topeka, Shawnee.
Earnest A. Wright,	Smith Center, Smith.
Walter Scott Wright,	Marvin, Phillips.
Guy E. Yerkes,	Hutchinson, Reno.

JUNIORS.

Ernest L. Adams,	Ozawkie, Jefferson.
Lizzie Bea Alexander.	Manhattan, Riley.
Jessie Patience Aller,	Manhattan, Riley.
Cecile Allentharp,	Manhattan, Riley.
Ethel Barber,	Manhattan, Riley.
Raymond C. Barr,	Manhattan, Riley.
Charles Earle Bassler,	Manhattan, Riley.
Julia Susanna Bayles,	Manhattan, Riley.
Ethel Esther Berry,	Jewell, Jewell.
Clare Biddison,	Manhattan, Riley.
John W. Blachly,	Leonardville, Riley.
Roy C. Bowman,	Oxford, Sumner.
Raymond W. Brink,	Manhattan, Riley.
Henry W. Brinkman,	Olpe, Lyon.
William John Brown,	Fall River, Greenwood.
Walter E. Burt,	Bronson, Bourbon.

Name.	Post-office and county (or state).
Fred Wallace Caldwell,	Garnett, Anderson.
Albert F. Cassell,	Beverly, Lincoln.
Clare Cave,	Manhattan, Riley.
Dillard Hazelrigg Clark,	Tonkawa, *Oklahoma.*
Roy H. Clark,	Newton, Harvey.
Lee S. Clarke,	Wagoner, *Indian Territory.*
Amy Cole,	Manhattan, Riley.
Hermon H. Conwell,	Topeka, Shawnee.
Jerome Earl Cooley,	Manhattan, Riley.
Allan Elizabeth Cooper,	Manhattan, Riley.
Bernard C. Copeland,	Idana, Clay.
Alson J. Cowles,	El Dorado, Butler.
Ethel Cowles,	Sibley, Douglas.
James R. Coxen,	Eskridge, Wabaunsee.
Everet William Cudney,	Belpre, Edwards.
Margaret Ruth Cunningham,	Glasco, Cloud.
Mabell Dana,	Manhattan, Riley.
William L. Davis,	Fairview, Brown.
Alexander H. Denneler,	Winchester, Jefferson.
Marshal Elsas,	Manhattan, Riley.
Lois Failyer,	Manhattan, Riley.
Ernest Clifford Farrar,	Beattie, Marshall.
Lena Cora Fay,	Wilsey, Morris.
Stella Finlayson,	Summerfield, Marshall.
Louise Fleming,	Tecumseh, Shawnee.
Anna Helen Foster,	Bennington, Ottawa.
Mamie C. Frey,	Elk, Chase.
Erma Gammon,	Ramah, *Colorado.*
Jesse E. George,	Manhattan, Riley.
Walter Byron Gernert,	McPherson, McPherson.
Oliver Holmes Gish,	Acme, Dickinson.
George G. Goheen,	Manhattan, Riley.
Clyde Jamison Gore,	Raymore, *Missouri.*
May Lucetta Griffing,	Manhattan, Riley.
Herbert Revere Groome,	Manhattan, Riley.
Samuel P. Haan,	Burlington, Coffey.
Harry T. Hamler,	Manhattan, Riley.
Ellen J. Hanson,	Marquette, McPherson.
Homer Richard Hillman,	Goodland, Sherman.
Dexter Holloway,	Yates Center, Woodson.
Fred Houser,	Oxford, Sumner.
Annice Howell,	North Topeka, Shawnee.
Flora May Hull,	Manhattan, Riley.
Kate M. Hutchinson,	Bellaire, Smith.
Irene Ingraham,	Manhattan, Riley.
Harry A. Ireland,	Bronson, Bourbon.
Minnie Alice Ise,	Downs, Osborne.
Elmer Johnson,	Latimer, Morris.
Louis M. Jorgenson,	Greenleaf, Washington.
Edith B. Justin,	Manhattan, Riley.

Name.	Post-office and county (or state).
Miner M. Justin,	Manhattan, Riley.
Grover Cleveland Kahl,	Manhattan, Riley.
Almira Kerr,	Idana, Clay.
Mary Kimball,	Manhattan, Riley.
Edward Rudolph Kupper,	Kansas City, Wyandotte.
Clarence Lambert,	Hiawatha, Brown.
Lorin Wendell Lawson,	McPherson, McPherson.
Adah Lewis,	Manhattan, Riley.
Gertrude Lill,	Mount Hope, Sedgwick.
Fred R. Lindsey,	Frankfort, Marshall.
James A. Lupfer,	Larned, Pawnee.
William Thomas McCall,	Wa Keeney, Trego.
Edward Louis McClaskey,	Girard, Crawford.
Myron J. McCray,	Manhattan, Riley.
Edwin William McCrone,	Haddam, Washington.
Ethel McDonald,	Manhattan, Riley.
Ethel Olive McKeen,	Russell, Russell.
Carl E. Mallon,	Ogden, Riley.
Jessie Lou Marty,	Merriam, Johnson.
Ella M. Meyer,	Riley, Riley.
Edward M. Miers,	Manhattan, Riley.
Fred Carl Miller,	Belvue, Pottawatomie.
George A. Moffatt,	Clyde, Cloud.
Joseph Shaw Montgomery,	Cedar Point, Chase.
Leona Estel Moore,	Manhattan, Riley.
Edward Allen Morgan,	Brainerd, Butler.
Alvan Taylor Munger,	Manhattan, Riley.
Don M. Neer,	Winfield, Cowley.
Clarence G. Nevins,	Ford, Ford.
Orien James Newlin,	Coldwater, Comanche.
Bessie Minerva Nicolet,	Manhattan, Riley.
Amer B. Nystrom,	Topeka, Shawnee.
Ole J. Olson,	Willis, Brown.
Harry Oman,	Leonardville, Riley.
Burton Sylvester Orr,	Topeka, Shawnee.
Rennick Rubenell Paine,	Manhattan, Riley.
Joseph W. Painter,	Beverly, Lincoln.
J. L. Pelham,	Manhattan, Riley.
Allen G. Philips,	Dover, Shawnee.
Harry E. Porter,	Manhattan, Riley.
Charles A. Pyles,	Morrill, Brown.
Elizabeth Randle,	Bala, Riley.
Lulu Mahala Rannells,	Manhattan, Riley.
Hiram R. Reed,	Centralia, Nemaha.
Edward Richards,	Manhattan, Riley.
James Richards,	Manhattan, Riley.
Blanche Robertson,	Manhattan, Riley.
John Michael Ryan,	Muscotah, Atchison.
Edwin G. Schafer,	Jewell, Jewell.
Walter T. Scholz,	Frankfort, Marshall.

Name.	Post-office and county (or state).
Martin William Schottler,	Emporia, Lyon.
Viola Adeline Secrest,	Randolph, Riley.
Earl Locke Shattuck,	Holton, Jackson.
Wilson George Shelley,	McPherson, McPherson.
Perle Harrison Skinner,	Jewell, Jewell.
Stanley Van Smith,	Ozawkie, Jefferson.
Frank Sorgatz,	Concordia, Cloud.
Maurice I. Stauffer,	Randall, Jewell.
Claudius Stewart,	North Topeka, Shawnee.
Grace Elizabeth Streeter,	Wakefield, Clay.
Lyman Bradley Streeter,	Wakefield, Clay.
Daniel Charles Sullivan,	Ulysses, Grant.
Bertha Florence Sweet,	Manhattan, Riley.
Helen Louise Sweet,	Manhattan, Riley.
S. Ray Tilbury,	Arkansas City, Cowley.
Anna R. Tolin,	Soldier, Jackson.
May E. Umberger,	Hymer, Chase.
Marion Syddum VanLiew,	Oshkosh, *Wisconsin.*
Carroll Walker,	Frankfort, Marshall.
Josephine Elizabeth Walker,	Manhattan, Riley.
Merton Luther Walter,	Manhattan, Riley.
Daniel Walters,	Manhattan, Riley.
Catherine N. Ward,	Minneapolis, Ottawa.
Albert A. Werner,	Alden, Rice.
Georgiana West,	Silverlake, Shawnee.
Helen Clara Westgate,	Manhattan, (Geary).
Clarence Earl Whipple,	Olivet, Osage.
Robert E. Williams,	Herington, Dickinson.
Asa Calvin Zimmerman,	Moray, Doniphan.

SOPHOMORES.

Fred T. Alderson,	Burden, Cowley.
Bess Alexander,	Welda, Anderson.
Kate Alfrey,	Winona, Logan.
Charles M. Alspach,	Axtell, Marshall.
Clyde Harrison Alspaugh,	Lincolnville, Marion.
Eva Irene Alspaugh,	Lincolnville, Marion.
Cyrus J. Anderson,	Hollis, Cloud.
William C. Anderson,	Minneapolis, Ottawa.
John David Ayres,	Edgerton, Johnson.
Benjamin B. Baird,	Riley, Riley.
Robert Roy Baird,	Riley, Riley.
Harold Bales,	Densmore, Norton.
Alice C. Ballou,	Delphos, Ottawa.
Marie Rilda Bardshar,	Mount Hope, Sedgwick.
Francis Alva Barnett,	Emporia, Lyon.
Ralph Earl Barnhart,	Ottawa, Franklin.
Vernon Elwell Bates,	Manhattan, Riley.
Ernest Elmer Beighle,	Manhattan, Riley.
Hulda L. J. Bennett,	Manhattan, Riley.

Name.	Post-office and county (or state).
George P. Berger,	Longford, Clay.
Louis Berges,	Onaga, Pottawatomie.
Edna Eleanor Biddison,	Manhattan, Riley.
Ethel Bisbey,	Wamego, Pottawatomie.
Horace Bixby,	Manhattan, Riley.
Cool Fenton Blake,	Glasco, Cloud.
Mable J. Bower,	Manhattan, Riley.
James E. Brock,	Chase, Rice.
Ella V. Brooks,	Tescott, Ottawa.
John Henry Brown,	Independence, Montgomery.
Lloyd Archie Brown,	Virgil, Greenwood.
Elmer Bull,	Kipp, Saline.
Ralph Elmer Caldwell,	Garnett, Anderson.
Lulu Belle Carlat,	Auburn, Shawnee.
Walter W. Carlson,	Mingo, Thomas.
Herbert Ray Case,	Valley Center, Sedgwick.
Charles Elmer Cassel,	Manhattan, Riley.
Wayne B. Cave,	Manhattan, Riley.
Ralph Thompson Challender,	Burrton, Harvey.
Esther Evangeline Christensen,	Randolph, Riley.
Nell Christopher,	Wichita, Sedgwick.
W. T. S. Compton,	Hays, Ellis.
Claude S. Conner,	Lyons, Rice.
Minnie Faye Conner,	Lyons, Rice.
(Mrs.) Ida E. Cook,	Effingham, Atchison.
Louis Graham Cook,	Effingham, Atchison.
Ralph Cooley,	Manhattan, Riley.
Katherine Cooper,	Manhattan, Riley.
Guy S. Crise,	Manhattan, Rlley.
Alexander B. Cron,	Augusta, Butler.
Herman L. Cudney,	Belpre, Edwards.
Sol Whitney Cunningham,	Manhattan, Riley.
James Scott Daniels,	Jamestown, Cloud.
Loea Bessie DeArmond,	Manhattan, Riley.
Bernice Ada Deaver,	Ionia, Jewell.
Maxwell C. Donley,	Powhattan, Brown.
Harry D. Douglas,	Manhattan, Riley.
Florence Edith Dresser,	Manhattan, Riley.
George Richard Eaton,	Highland, Doniphan.
Mary Amy Elder,	Osage City, Osage.
Emmett Emslie,	Manhattan, Riley.
Wilma Dette Evans,	Colby, Thomas.
Carl Forsberg,	Manhattan, Riley.
Walter A. Foster,	Bennington, Ottawa.
Mary Eliza Gaden,	Riley, Riley.
W. K. Gardner,	Homewood, Franklin.
John M. Garrity,	Perth, Sumner.
James R. Garver,	Abilene, Dickinson.
LeRoy E. Gaston,	Morrill, Brown.
Clarence T. Gibbon,	Hartford, Lyon.

Name.	Post-office and county (or state).
Robert T. Gilbert,	Kansas City, *Missouri.*
Cecile Agnes Graham,	Manhattan, Riley.
Olin Graham,	Floyd, *Texas.*
Roy R. Graves,	Kansas City, Wyandotte.
Fred Foster Greeley,	Manhattan, Riley.
George B. Griffith,	Hays, Ellis.
Chester W. Grizzell,	Claflin, Barton.
Edna Gertrude Grizzell,	Claflin, Barton.
Gabriel Grosfield,	Willis, Brown.
Albert P. Haeberle,	Peck, Sedgwick.
James Howard Hamilton,	Clifton, Washington.
Dora Inez Harlan,	Walnut, Crawford.
Irvin Harold,	Manhattan, Riley.
Ina Harold,	Manhattan, Riley.
Tillie Harold,	Manhattan, Riley.
Frank Clyde Harris,	Harveyville, Wabaunsee.
Maude Harris,	Harveyville, Wabaunsee.
Ida F. Hassebroek,	Manhattan, Riley.
Lizzie F. Hassebroek,	Manhattan, Riley.
Grace Hawkins,	Marysville, Marshall.
Stella Hawkins,	Marysville, Marshall.
Fred M. Hayes,	Kansas City, Wyandotte.
Lawrence Glenn Haynes,	Glasco, Cloud.
Alice Mabel Hazen,	Centralia, Nemaha.
Leon George Hoffman,	Manhattan, Riley.
Josie Holland,	Manhattan, Riley.
Mabel Howell,	Manhattan, Riley.
James Clark Hughes,	Topeka, Shawnee.
Grace Gertrude Hull,	Manhattan, Riley.
Pearl May Hull,	Kiowa, Barber.
Ralph W. Hull,	Manhattan, Riley.
Wyllys Lyman Hull,	Milford, Geary.
Helen Knostman Huse,	Manhattan, Riley.
Archie Edward Immenschuh,	Wamego, Pottawatomie.
Charles Jacobus,	Manhattan, Riley.
Benjamin David Jeffs,	Hutchinson, Reno.
Harry C. Johnson,	Dwight, Morris.
Edna Mary Jones,	Manhattan, Riley.
Seneca Jones,	Bala, Riley.
Ursa Joslin,	Randall, Jewell.
Henry D. Kappelmann,	Linn, Washington.
Venus Kimble,	Keats, Riley.
Walter King,	Enterprise, Dickinson.
Arthur W. Kirby,	Paola, Miami.
Orville M. Kiser,	Sedgwick, Harvey.
Albert G. Kittell,	McPherson, McPherson.
David Kratzer,	Mitchell, Rice.
Julius Landau,	Manhattan, Riley.
Alfred John Larmor,	Garden City, Finney.
Neva Ethel Larson,	Tescott, Ottawa.

Name.	Post-office and county (or state).
Carl C. Long,	Neodesha, Wilson.
Edmund Franklin Loveless,	Antelope, Marion.
Nels Ludvickson,	Severy, Greenwood.
Faye Gertrude McConnell,	Minneapolis, Ottawa.
Emery W. McKee,	Hallowell, Cherokee.
Olive R. McKeeman,	Soldier, Jackson.
Harry Charles McLean,	Mankato, Jewell.
Irwin Clarence McManis,	Manhattan, Riley.
Eleanor March,	Manhattan, Riley.
Phillip Edward Marshall,	Denison, Jackson.
John Edward Martin,	Waverly, Coffey.
Chalmer A. Mather,	Manhattan, Riley.
James Arthur Milham,	Waverly, Coffey.
Francis Burzley Milliken,	Hill City, Graham.
Harry H. Momyer,	Great Bend, Barton.
Albert R. Moore,	Coldwater, Comanche.
Loren Claire Morgan,	Cherryvale, Montgomery.
Orr O. Morrison,	Manhattan, Riley.
Charlotte Augusta Morton,	Tescott, Ottawa.
Lizzie Morwick,	Eskridge, Wabaunsee.
Edna Anna Munger,	Manhattan, Riley.
Jacob Michael Murray,	Goff, Nemaha.
Lucy Needham,	Lane, Franklin.
Rudolph B. Nelson,	Osage City, Osage.
Guy D. Noel,	Valencia, Shawnee.
Victor Emanuel Oman,	Walsburg, Riley.
David Lawrence Orendorff,	Manhattan, Riley.
Floyd L. Osburn,	Peru, Chautauqua.
Hobart Oskins,	Manhattan, Riley.
James Oliver Parker,	Lakin, Kearny.
Martin Luther Parsons,	Ada, Ottawa.
Harry A. Paul,	Osborne, Osborne.
Grace D. Pearson,	Humboldt, Allen.
Ethel S. Perry,	Oskaloosa, Jefferson.
John Buell Peterson,	Wichita, Sedgwick.
Marcia Pierce,	Junction City, Geary.
Arthur Benjamin Pincomb,	Merriam, Johnson.
Hubert L. Popenoe,	Topeka, Shawnee.
John Allison Porter,	Manhattan, Riley.
Adeline Poston,	Emporia, Lyon.
Herman Albert Praeger,	Claflin, Barton.
Webster McGee Putnam,	Richmond, Franklin.
Harold S. Records,	Beloit, Mitchell.
Alvin Josiah Reed,	St. Clere, Pottawatomie.
Oliver Willes Reynolds,	Paola, Miami.
Ida Ethel Rigney,	Manhattan, Riley.
Percy M. Roberts,	Clearwater, (Sumner.)
Donald Ross,	Independence, Montgomery.
George Arthur Savage,	Meredith, Cloud.
Clara Dorothy Schield,	Hanover, Washington.

Name.	Post-office and county (or state).
Hugo Schild,	Hanover, Washington.
Rollie Shirley,	Perry, Jefferson.
Jay Warren Simpson,	Talmage, Dickinson.
Hallie M. Smith,	Manhattan, Riley.
Jay Latimer Smith,	Ozawkie, Jefferson.
Margaret Grace Smith,	Manhattan, Riley.
Minnie H. Smith,	Herington, Dickinson.
Arthur R. Snapp,	Belleville, Republic.
Lloyd Erwin Snapp,	Belleville, Republic.
Ralph Edwin Snapp,	Belleville, Republic.
H. Ernest Soule,	Long Island, Phillips.
Agnes J. Soupene,	Manhattan, Riley.
Roy E. Spriggs,	Little River, Rice.
Charley Stants,	Kensington, Smith.
Herbert D. Strong,	Goddard, Sedgwick.
Leora Juanita Sutcliff,	Mankato, Jewell.
Edwin Springer Taft,	Topeka, Shawnee.
Owen H. Thomas,	Barclay, Osage.
Mabel Addie Thompson,	Manhattan, Riley.
Raymond Charles Thompson,	Manhattan, Riley.
Earle Thurston,	Manhattan, Riley.
Merritt Rex Tinkham,	Manhattan, Riley.
Bessie L. Tolin,	Soldier, Jackson.
Charles T. Topping,	Florence, Marion.
Virginia Troutman,	Comiskey, Lyon.
Matilda Trunk,	Caldwell, Sumner.
Harmon J. Twichell,	Clay Center, Clay.
Gabriella Venard,	Kansas City, Wyandotte.
George Stanley Warren,	Pittsburg, Crawford.
Oley W. Weaver,	Effingham, Atchison.
Gladys K. Wenkheimer,	Belpre, Pawnee.
Burton H. Wilber,	Manhattan, Riley.
Charles Julius Willard,	Manhattan, Riley.
James J. Williams,	Home, Marshall.
Chloe May Willis,	Manhattan, Riley.
Vesta Williston,	Manhattan, Riley.
Bruce S. Wilson,	Manhattan, Riley.
Ira A. Wilson,	Winfield, Cowley.
Henry B. Winter,	Manhattan, Riley.
Georgia Withington,	Manhattan, Riley.
Nelle Wolf,	Manhattan, Riley.
Ray M. Wolfe,	La Cygne, Linn.
William R. Yerkes,	Hutchinson, Reno.
Stuart Smith Young,	Manhattan, Riley.
James Walter Zahnley,	Dwight, Morris.

FRESHMEN.

Name.	Post-office and county (or state).
Francis C. Abbott,	Manhattan, Riley.
Stephen Abbott,	Manhattan, Riley.
Franklin Alexander Adams,	Maplehill, Wabaunsee.
Adriano Pablo Alcazar,	Iloilo, *Philippine Islands.*
Mollie Aldridge,	Junction City, Geary.
M. Reuben Alleman,	Kansas City, Wyandotte.
H. Don Allen,	Larned, Pawnee.
Juan R. Alvano,	Laoag, I. N., *Philippine Isl.*
Jessie Mabel Alvord,	Zurich, Rooks.
Raiffe Alvord,	Manhattan, Riley.
Amelia Lillian Anderson,	Manhattan, Riley.
George Alexander Andrews,	Lancaster, Atchison.
Grace Aileen Apitz,	Manhattan, Riley.
Jessie Edwina Apitz,	Manhattan, Riley.
Ralph Armstrong,	Manhattan, Riley.
Eppa Cleveland Ausherman,	Elmont, Shawnee.
Will David Austin,	Isabel, Barber.
Charles W. Avery,	Coldwater, Comanche.
Elsie Marion Ayres,	Edgerton, Johnson.
Lambert L. Bailey,	Great Bend, Barton.
Julia Baker,	Cherryvale, Montgomery.
Walter E. Baker,	Washington, Washington.
Cecil Pearl Barnett,	Manhattan, Riley.
Myrtle Bartlett,	St. Marys, Pottawatomie.
Edward E. Bealey,	Morrill, Brown.
Albert Smith Bell,	Manhattan, Riley.
Verna Ethel Bell,	Manhattan, Riley.
Ella M. Benner,	Manhattan, Riley.
Willis Ernest Berg,	Cleburne, Riley.
Robert E. Berkeley,	Burr Oak, Jewell.
Ellen Berkey,	Manhattan, Riley.
Victor Hiram Berkey,	Louisburg, Miami.
Elbridge Jarvis Best,	Manhattan, Riley.
Hazel E. Bixby,	Manhattan, Riley.
Casey C. Bonebrake,	Stockton, Rooks.
Delmo Booker,	Kansas City, Wyandotte.
Leroy Maxwell Bourbon,	Jewell, (Mitchell).
Ammie A. Bowker,	St. John, Stafford.
Clyde Bowles,	Jewell, Jewell.
Charles Joseph Boyle,	Spivey, Kingman.
John Arthur Broberg,	Lincoln, Lincoln.
Elsie Brown,	Manhattan, Riley.
Glenn Buckman,	Conway, McPherson.
Clyde E. Bundy,	Burns, Marion.
Charles Harry Burge,	Topeka, Shawnee.
Mary O. Burr,	Manhattan, Riley.
Frank Robert Bynum,	Wichita, Sedgwick.
Charles Cain,	Burlingame, Osage.
Paul Calvin,	Manhattan, Riley.

Name.	Post-office and county (or state).
Ruth Calvin,	Manhattan, Riley.
Dave Watt Campbell,	Clay Center, Clay.
Albert Carlson,	Blue Rapids, Marshall.
Anna Wilhelmina Carlson,	Manhattan, Riley.
Etta Carlton,	Manhattan, Riley.
John R. Carnahan,	Manhattan, Riley.
Nannie Carnahan,	Stockdale, Riley.
Clifford Carr,	Solomon, Dickinson.
Sarah Elizabeth Cassel,	Manhattan, Riley.
Harold Edmund Cate,	Eskridge, Wabaunsee.
Robert Russell Cave,	Manhattan, Riley.
Kirk P. Cecil,	North Topeka, Shawnee.
Claude T. Chamberlain,	Le Roy, Coffey.
Irma Irene Church,	Smith Center, Smith.
C. Grace Clarkson,	Fairport, Russell.
Ethel R. Coffman,	Manhattan, Riley.
George Collister,	Minneapolis, Ottawa.
Harry Colwell,	Leonardville, Riley.
George Washington Conner,	Cheney, Sedgwick.
John M. Coons,	Manhattan, Riley.
Marie Coons,	Manhattan, Riley.
Margaret Copley,	Manhattan, Riley.
Robert Lee Cormack,	Solomon, Dickinson.
Nelson F. Cornelius,	Rantoul, Franklin.
Theodore Lewis Cowen,	Kansas City, Wyandotte.
William Harry Cox,	Scottsville, Mitchell.
Reva Violet Cree,	Manhattan, Riley.
Walter S. Criswell,	Frankfort, Marshall.
Ward Webster Curtis,	Lenora, Norton.
Nellie Custer,	Manhattan, Riley.
Foy Danks,	Meade, Meade.
Holsie Eri Danks,	Meade, Meade.
Curtis Lynn Daughters,	Lincoln, Lincoln.
Irma Davies,	Green, Clay.
Ivor Davies,	Olivet, Coffey.
Mabel Ethel Davison,	Michigan Valley, Osage.
Wilbur Sumner Davison,	Michigan Valley, Osage.
Ruby Fay Deaver,	Esbon, Jewell.
Lillian Delp,	Lenora, Norton.
Vinton V. Detwiler,	Jewell, Jewell.
Ira L. DeWitt,	Carneiro, Ellsworth.
Floyd Dixon,	Lebanon, Smith.
Lulu Holmes Docking,	Manhattan, Riley.
Mabel Nellie Dolton,	Lucas, Russell.
Ferol Neva Dougherty,	Manhattan, Riley.
Fay Douglas,	Manhattan, Riley.
William Droge,	Seneca, Nemaha.
Hal B. Dubois,	Burlingame, Osage.
Curtis Anthony Eastwood,	Berlin, Bourbon.
Merrill R. Edelblute,	Keats, Riley.

Name.	Post-office and county (or state).
Ralph Waldo Edwards,	Emporia, Lyon.
Ross C. Egy,	Langdon, Reno.
Ruth E. Elliot,	Manhattan, Riley.
Katherine Lucy Emslie,	Manhattan, Riley.
Alwyn Kenneth Evans,	Manhattan, Riley.
Blanche L. Evans,	Manhattan, Riley.
Robert Kenneth Evans,	Summerfield, Marshall.
Eva Gladys Farrar,	Frankfort, Marshall.
Foss Farrar,	Arkansas City, Cowley.
Leo Lester Felps,	Le Roy, Coffey.
Charles O. Ferris,	Chapman, Dickinson.
Frank E. Ferris,	Osage City, Osage.
Louise L. Fielding,	Manhattan, Riley.
Harry James Fink,	Formoso, Jewell.
Edward Finley,*	Hollis, Cloud.
Roy D. Finley,	Le Roy, Coffey.
Fredric Leroy Fogwell,	Topeka, Shawnee.
Donald Foote,	Simpson, Mitchell.
Alice Winifred Foster,	Bennington, Ottawa.
Jesse Foster,	Manhattan, Riley.
Nora Angelina Frasure,	Ford, Ford.
H. I. Frisbie,	Topeka, Shawnee.
George C. Gardner,	Chanute, Neosho.
Raymond E. Gates,	Anthony, Harper.
Gilbert G. Ghormley,	Partridge, Reno.
Hazel D. Gilbert,	Manhattan, Riley.
Amos H. Gish,	Abilene, Dickinson.
Walter S. Gish,*	Abilene, Dickinson.
Ambrosia Gison,	Iloilo, Panay, *Philippine Isl.*
William Holman Goldsmith,	Acme, Dickinson.
Rob A. Grant,	Lane, Franklin.
William Henry Grinter,	Perry, Jefferson.
Blanche W. Groome,	Manhattan, Riley.
Aaron Guth,	Sterling, Rice.
Harriet Inez Guttridge,	Cullison, Pratt.
Charles Meyers Haines,	Manhattan, Riley.
Barrett L. Halderman,	Long Island, Phillips.
Hope Faith Charity Hall,	Wichita, Sedgwick.
John Halloran,	Castleton, Reno.
Helen H. Halm,	Topeka, Shawnee.
Ralph Robert Hand,	Wellington, Sumner.
Anton Hanson,	Jamestown, Cloud.
Harry W. Hanson,	Manhattan, Riley.
Harry Harding,	Belleville, Republic.
Elizabeth C. Harri,	Brookville, Saline.
Fritz F. Harri,	Brookville, Saline.
Annie A. Harrison,	Jewell, Jewell.
Walter L. Hart,	Crestline, Cherokee.
Ella Hathaway,	Mankato, Jewell.

* Deceased.

Name.	Post-office and county (or state).
Joseph Morrow Hawks,	Hiawatha, Brown.
Cecil Earl Haworth,	Galena, Cherokee.
Dora Ream Hawthorne,	McPherson, McPherson.
Christine M. Heim,	Lincoln, Lincoln.
William Hemphill,	Pratt, Pratt.
Ida Viola Hepler,	Manhattan, Riley.
Jestie Lovinia Hepler,	Manhattan, Riley.
Cora E. Hepworth,	Burlingame, Osage.
Hiram Eric Hershberger,	Eskridge, Wabaunsee.
Thomas Newton Hill,	Elk Falls, Elk.
Rees William Hillis,	Reading, Lyon.
James Felix Hills,	Kinsley, Edwards.
Rebecca A. Himes,	Manhattan, Riley.
Pearle Frances Hinkle,	Courtland, Republic.
Martin Anthon Hinrichs,	Cleburne, Riley.
Jesse T. Hirst,	Hutchinson, Reno.
Jennie Hoffhines,	Marquette, McPherson.
Alice B. Holmstead,	Lehi City, *Utah.*
Ada Statira Holroyd,	Manhattan, Riley.
Robinson Philip Horney,	Neodesha, Wilson.
E. Della Hughes,	Topeka, Shawnee.
David H. Hull,	Kiowa, Barber.
Clara Hungerford,	Randolph, Riley.
Esther Lillie Hungerford,	Manhattan, Riley.
Ralph E. Hunt,	Marysville, Marshall.
Ivor Stanley Ion,	Jamestown, Cloud.
Alice Victoria Ipsen,	Cleburne, Riley.
Walter James,	Enterprise, Dickinson.
Jessie Jenkins,	Council Grove, Morris.
A. Frank Johnson, jr.,	Independence, Montgomery.
Fannie E. Johnson,	Yates Center, Woodson.
Herman Berger Johnson,	Vliets, Marshall.
Elmer W. Jones,	Elk Falls, Elk.
Frederick T. Jones,	Topeka, Shawnee.
Ethel M. Justin,	Manhattan, Riley.
Margaret Justin,	Manhattan, Riley.
Elsie Kammeyer,	Manhattan, Riley.
Charles Alterson Kelsall,	Reno, Leavenworth.
Harry E. Kiger,	Burlington, Coffey.
Cora Kimble,	Manhattan, Riley.
Loyd L. King,	Wichita, Sedgwick.
Carl L. Kipp,	Piqua, Woodson.
Frank Kirgis,	Beloit, Mitchell.
William Kroesch,	Lorraine, Ellsworth.
Edison Frank Kubin,	McPherson, McPherson.
Harold Larson,	Vesper, Lincoln.
Arthur Albert Lee,	Columbus, Cherokee.
Emma Lee,	Ionia, Jewell.
Grace Elizabeth Leuszler,	Washington, Washington.
David Ernest Lewis,	Independence, Montgomery.

Name.	Post-office and county (or state).
John Lewis,	Emporia, Lyon.
Joe Grigsby Lill,	Mount Hope, Sedgwick.
Nellie Lindsay,	Manhattan, Riley.
Maud Lillian Logan,	Manhattan, Riley.
Wilbert Dean Lorimer,	Olathe, Johnson.
Roland Loyd,	Bendena, Doniphan.
Wallace Lumb,	Wakefield, Clay.
Hal H. H. Lynch,	St. Louis, *Missouri.*
Ernest Raymond Lyon,	St. John, Stafford.
Minnie Vergie McCray,	Manhattan, Riley.
Mabel McDonald,	Manhattan, Riley.
Scott Roger McDonald,	Manhattan, Riley.
John W. McDowell,	Thurman, Chase.
Myrtle McFadden,	Stafford, Stafford.
Joseph M. McKamey,	Kansas City, Wyandotte.
Walter Scott McKay,	Independence, Montgomery.
Mabel Mortier McKenzie,	Solomon, Dickinson.
James W. McLaughlin,	Girard, Crawford.
Albert Marven McMinimy,	Wichita, Sedgwick.
Guy Wester McNatt,	Kansas City, Wyandotte.
Sam A. McWilliams,	Morrowville, Washington.
Kenneth R. March,	Manhattan, Riley.
Ethel Madge Martin,	Mound City, Linn.
Alice Nettie Marvin,	Manhattan, Riley.
Delia Matteson,	Phillipsburg, Phillips.
F. Herman Mayer,	Alta Vista, Wabaunsee.
Mabel Mayhew,	Belpre, Edwards.
Edgar Clyde Mead,	Dexter, Cowley.
Peter J. Meenen,	Clifton, Clay.
W. S. Merriam,	Winfield, Cowley.
Ernest Miller,	Bennington, Ottawa.
Harry Edward Miller,	Kechi, Sedgwick.
W. George Milligan,	Olathe, Johnson.
Ottley Sheldon Rylatt Mings,	Burlingame, Osage.
Raymond Morton Moody,	Lenexa, Johnson.
Celia Caroline Moore,	Manhattan, Riley.
Earl W. Moore,	Pratt, Pratt.
Claude Moorman,	Burr Oak, Jewell.
Ross Moorman,	Burr Oak, Jewell.
David Karl Morris,	Ottawa, Franklin.
Margaret Ethel Moseley,	Alma, Wabaunsee.
Heber Orla Munger,	Manhattan, Riley.
Della Delpha Murphy,	Manhattan, Riley.
Glenn G. Murphy,	Lyons, Rice.
Mymie Myers,	Manhattan, Riley.
J. Percy Naff,	Comiskey, Lyon.
William B. Naylor,	Morrowville, Washington.
Carolyn Nettie Neal,	Topeka, Shawnee.
Flora Belle Needham,	Osawatomie, Miami.
Thomas Neidiger,	Cimarron, Gray.

Name.	Post-office and county (or state).
George Paul Neiman,	White Water, Butler.
Arthur Newcombe,	Great Bend, Barton.
Arthur Nichols,	Buffalo, Woodson.
John W. Norlin,	Windom, McPherson.
Owen Norton,	Marquette, McPherson.
Floyd Lester Nutting,	Russell, Russell.
Milton Oscar Nyberg,	Mayfield, Sumner.
Victor F. Oblefias,	Lucban, Fayabas province, *P. I.*
John Francis O'Connor,	Hartford, Lyon.
Myrtle Oskins,	Manhattan, Riley.
Maurice J. Oteyza,	Manila, *Philippine Isl.*
Charles Henry Paine,	Manhattan, Riley.
William Bradford Palmer,	Sabetha, Nemaha.
Bessadell Parks,	Manhattan, Riley.
Frank Thomas Parks,	Manhattan, Riley.
John Howard Payne,	Randall, Jewell.
Vernon Peachey,	Darlow, Reno.
Claro Pendon,	Iloilo, *Philippine Isl.*
Harold Albert Pennington,	Hutchinson, Reno.
Arthur D. Perry,	Oskaloosa, Jefferson.
Gweneth M. Petty,	Morganville, Clay.
Bertha Ellen Phillips,	Manhattan, Riley.
Kenneth W. Phillips,	Manhattan, (Pottawatomie).
George H. Phinney,	Lebo, Coffey.
William C. Phinney,	Lebo, Coffey.
Beulah Pitman,	Manhattan, Riley.
Otis H. Pixley,	Wamego, Pottawatomie.
William Cleveland Polley,	Republic, Republic.
George F. Porter,	Caney, Montgomery.
Russell C. Porter,	Manhattan, Riley.
Harold Kenneth Powell,	Powhattan, Brown.
James J. Price,	Emporia, Lyon.
Daniel Milton Purdy,	Arkansas City, Cowley.
Fred Tunis Rader,	Mayfield, Sumner.
Thomas Jefferson Ragland,	Topeka, Shawnee.
Leaffa Laura C. Randall,	Manhattan, Riley.
George Thomas Ratliffe,	Wichita, Sedgwick.
Hallie Reed,	St. Clere, Pottawatomie.
Wray Robert Reeves,	Manhattan, Riley.
Harry W. Reppert,	Valley Falls, Jefferson.
Guy Chester Rexroad,	Partridge, Reno.
Warren E. Rice,	Gypsum, Saline.
John A. Richards,	Manhattan, Riley.
Marjorie Beryl Rickman,	Manhattan, Riley.
Harry Leslie Ridenour,	Manhattan, Riley.
Arney Hampton Ritchie,	Dorrance, Russell.
Hugh Robertson,	Highland, Doniphan.
Aline Robidoux,	Manhattan, Riley.
Maybeth Robison,	Manhattan, Riley.
Walter H. Roddy,	Topeka, Shawnee.

Name.	Post-office and county (or state).
John Frank Romary,	Olivet, (Coffey).
Theodore William Romig,	Manhattan, Riley.
Bertha May Romine,	Burlingame, Osage.
Arthur Henry Rose,	New Cambria, Saline.
Worth D. Ross,	Manhattan, Riley.
Ernest John Rossman,	Clifton, Washington.
Eugene Ruede,	Manhattan, Riley.
Lynnie Sanborn,	Jewell, Jewell.
John Schlaefli,	Cawker City, Mitchell.
Henry W. Schmidler,	Marysville, Marshall.
Richard Schuppert,	Arrington, Atchison.
Kathleen Selby,	Manhattan, Riley.
Claude L. Shaw,	Eskridge, Wabaunsee.
William Lenley Shelly,	Atchison, Atchison,
Lloyd Hedrick Shepherd,	Hutchinson, Reno.
Charles Glaskin Sherman,	Kansas City, *Missouri.*
Archie James Shirley,	Grantville, Jefferson.
Walter Alvin Simpson,	Manhattan, Riley.
Walter B. Skinner,	North Topeka, Shawnee.
Harry Lewis Smith,	Hutchinson, Reno.
Ned Smith,	Manhattan, Riley.
Olive Marguerite Smith,	Waverly, Coffey.
Calvin Snider,	Mound City, Linn.
Talmage Solt,	Manhattan, Riley.
Lester Sommers,	Manhattan, Riley.
Alice Louise Southern,	Manhattan, Riley.
Carrie Belle Spiller,	Frankfort, Marshall.
Max Llewellyn Steele,	Minneapolis, Ottawa.
Oscar E. Stratford,	El Dorado, Butler.
L. A. Sturgis,	Sterling, Comanche.
Ross H. Sweet,	Manhattan, Riley.
Frances Isabel Taylor,	Manhattan, Riley.
Ruth Taylor,	Manhattan, Riley.
A. E. Tebow,	Jamestown, Cloud.
Guy H. Thomas,	Waldo, Russell.
G. Eldon Thompson,	Manhattan, Riley.
M. Mabel Thompson,	Garrison, Pottawatomie.
William Robert Thompson,	Brownell, Ness.
John Tinkham,	Manhattan, Riley.
Margaret Towers,	Manhattan, Riley.
Jean G. Troutman,	Comiskey, Lyon.
Dollie E. Urquhart,	Wamego, Pottawatomie.
Lonnie F. Vass,	Glasco, Cloud.
Clarence Dudley Vawter,	Topeka, Shawnee.
Roy L. Walthour,	Newton, Harvey.
James Paul Walton,	Vinland, Douglas.
Zola Walton,	Geneseo, Rice.
Alma Warden,	Lyons, Rice.
Paul Joseph Warden,	McCracken, Rush.
John Monroe Washburn,	Topeka, Shawnee.

Name.	Post-office and county (or state).
Charles R. Wears,	Manhattan, Riley.
Frances Weber,	Monument, Logan.
Hall D. Webster,	Manhattan, Riley.
Eva May Wheeler,	Tyro, Montgomery.
Bessie May White,	Manhattan, Riley.
Robert Earnest Whitfield,	Wabaunsee, Wabaunsee.
Willard Ames Whitney,	Manhattan, Riley.
Francis Buckner Williams,	Lincolnville, Marion.
Marion Williams,	Barnes, Washington.
Raymond Williams,	Newton, Harvey.
Lloyd D. Willis,	Manhattan, Riley.
Robert Wilson,	Miltonvale, Cloud.
Roy M. Wilson,	Concordia, Cloud.
Albert Lemont Wiltse,	Covert, Osborne.
Fred N. Winchester,	Larned, Pawnee.
Amelia Margaret Winter,	Manhattan, Riley.
Frederick William Winter,	Dover, Shawnee.
Leslie B. Wise,	Clearwater, Sedgwick.
Ward Woody,	Cawker City, Mitchell.
Ray Curtis Worswick,	Oskaloosa, Jefferson.
George Wright,	Burlington, Coffey.
Roy Milton Wyatt,	Atchison, Atchison.
Frank E. Yarrow,	Wakefield, Clay.
Mignonette Yerkes,	Hutchinson, Reno.
Carrie York,	Dunlap, Morris.

PREPARATORY.

Elizabeth Aberle,	Manhattan, Riley.
Nellie Aberle,	Manhattan, Riley.
Effie Adams,	Ozawkie, Jefferson.
Ida Florence Alspaugh,	Lincolnville, Marion.
Aaron E. Anderson,	Eskridge, Wabaunsee.
Albion J. Anderson,	Manhattan, Riley.
Bernard Anderson,	Jamestown, Cloud.
Hilma Louise Anderson,	Olsburg, Pottawatomie.
John H. Anderson,	Lebanon, Smith.
Rudolph Anderson,	White City, Morris.
Sidney Paul Arnold,	Iola, Allen.
Robert Askew,	Macksville, Stafford.
Emery Babb,	Wakefield, Clay.
Charles Leslie Baird,	Valencia, Shawnee.
O. R. Baird,	Tuscola, *Texas.*
James Martin Baker,	Natoma, Osborne.
Joseph William Baker,	Larned, Pawnee.
Orville L. Baker,	Manhattan, Riley.
Thomas Thompson Baker,	Peabody, Marion.
Stella Louise Ballard,	Washington, Washington.
Verne Barber,	White City, Morris.
Albert Barnard,	Manhattan, Riley.

Name.	Post-office and county (or state).
Maynard Bartlett,	St. Marys, Pottawatomie.
Alta Baxter,	Flush, Pottawatomie.
Vet S. Baxter,	White City, Morris.
Dora Wilhelmina Bayer,	Toronto, Woodson.
Benjamin Franklin Bayles,	Manhattan, Riley.
John Bayles,	Manhattan, Riley.
Myrtle Ruth Bayles,	Manhattan, Riley.
Pearl Beaman,	Hopeville, Pratt.
Ulysses Samuel Bedor,	Hollis, Cloud.
Osa Beeler,	Mankato, Jewell.
James W. Benner,	Manhattan, Riley.
John M. Bennett,	Topeka, Shawnee.
Hannah C. Berg,	Windom, McPherson.
Selma Berg,	Valley, Hodgeman.
Gilbert W. Berry,	Lancaster, Atchison.
Lonnie Bills,	Crescent, Kiowa.
Robert M. Blachly,	Leonardville, Riley.
Ernest E. Blazier,	Irving, Marshall.
Cynthia Bonebrake,	Stockton, Rooks.
Zella Bonebrake,	Stockton, Rooks.
Paul Harbert Boone,	Lenexa, Johnson.
Mattie Boucher,	Manhattan, Riley.
Guy E. Bovey,	Summerfield, Marshall.
Harley James Bower,	Eureka, Greenwood.
Ralph Coleman Bowlby,	Fairport, Russell.
Fred S. Bradford,	Concordia, Cloud.
Effie Bratton,	Waldo, Russell.
Miles Harley Brewer,	Burlingame, Osage.
Frank M. Brockway,	Wellsville, Miami.
Floyd T. Brooks,	Poe, Logan.
Charles Arthur Broom,	Bennington, Ottawa.
William James Broom,	Bennington, Ottawa.
Charles E. Brower,	Wellington, Sumner.
Ira E. Brown,	Sylvan Grove, Lincoln.
Zevelin Norman Brown,	Topeka, Shawnee.
Elmer Bruner,	Holton, Jackson.
George Bruner,	Larkin, Jackson.
Fred Brunker,	Manhattan, Riley.
Virgil C. Bryant,	Cimarron, Gray.
Elmer Wilmot Buell,	Miltonvale, Cloud.
Bertha Bull,	Manhattan, Riley.
John W. Bullard,	Bellaire, Smith.
Nellie Frances Burnison,	Onaga, Pottawatomie.
Leon Carpenter Bush,	Little River, Rice.
William Calahan, jr.,	Burr Oak, Jewell.
Ralph Morris Caldwell,	Wichita, Sedgwick.
Zee C. Calvin,	Manhattan, Riley.
Albert Moore Campbell,	Independence, Montgomery.
Oliver G. Campbell,	Valley Falls, Jefferson.
Oscar Canary,	Fall, Leavenworth.

Name.	Post-office and county (or state).
Edward Canfield,	Iola, Allen.
Clarence Edwin Carman,	Phillipsburg, Phillips.
Albert Merrion Carnahan,	Manhattan, Riley.
James Carr,	Naron, Pratt.
Thomas Arthur Case,	Sterling, Rice.
Earl K. Chambers,	Milford, Geary.
Ben T. Chaney,	Adrian, Jackson.
Hugh Leslie Charles,	Lancaster, Atchison.
Robert Vernon Christian,	Iola, Allen.
M. Bessie Clark,	Riley, Riley.
Walter Clark,	Kinsley, Edwards.
Arthur Basset Clements,	Newton, Harvey.
Robert Ingersoll Cloepfil,	Hunter, Mitchell.
J. K. Codding,	Wamego, Pottawatomie.
Joseph H. Coffman,	Manhattan, Riley.
Grover Coker,	Scott City, Scott.
Blanche M. Collister,	Manhattan, Riley.
Edwin M. Cook,	Effingham, Atchison.
James Martin Cook,	Effingham, Atchison.
Walter L. Cook,	Protection, Comanche.
Sterling Cooper,	Elmont, Shawnee.
Albert W. Copeland, jr.,	Hays, Ellis.
Horace Edward Cormack,	Solomon, Dickinson.
John William Cory,	Drexel, *Missouri.*
Charles Coryell,	Junction City, Geary.
Ralph Edward Crabbs,	Arlington, Reno.
Roy P. Craton,	Wilsey, Morris.
Cyrus James Creighton,	Morrowville, Washington.
Wilford O. Cress,	Codell, Rooks.
Essie Phillida Creviston,	Manhattan, Riley.
James Wesley Crooks,	Beattie, Marshall.
Henry Logan Cross,	Eureka, Greenwood.
Katherine Teresa Currier,	Garnett, Anderson.
Forrest Virgil Curtis,	Goddard, Sedgwick.
William Cuthbert,	Topeka, Shawnee.
Olga Dahl,	Montrose, Jewell.
Alma M. Danneberg,	Argentine, Wyandotte.
Bertha Davis,	Brownell, Ness.
Percy Grover Davis,	Brownell, Ness.
Susan Davis,	Arkalon, Seward.
Glenn Ananias Dawes,	Asherville, Mitchell.
Edgar Hamilton Dearborn,	Manhattan, Riley.
Glen DeGarmo,	Naron, Pratt.
Cassie Delp,	Lenora, Norton.
Lawrence Deming,	Larkin, Jackson.
Leola Blanche Denny,	Lexington, Clark.
Lena S. DeSelm,	Manhattan, Riley.
Rena L. DeSelm,	Manhattan, Riley.
Raymond Leo DeVoe,	Osawatomie, Miami.
Milo Deweese,	Miltonvale, Cloud.

Name.	Post-office and county (or state).
Bertha DeWitt,	Carneiro, Ellsworth.
George L. Dickinson,	Ottawa, Franklin.
Eva Burneice Dodge,	Fairport, Russell.
Dan V. Dodge,	Manhattan, Riley.
Charles Doryland,	Junction City, Geary.
Luther L. Dougan,	Manhattan, Riley.
Hallie Caroline Drake,	Manhattan, Riley.
Lulu Irene Drake,	Manhattan, Riley.
John Drown,	Manhattan, Riley.
Homer Drum,	Waverly, Coffey.
George Edward Dull,	Washington, Washington.
Leslie Duncanson,	Ionia, Jewell.
Leila Dunton,	Lebanon, Smith.
Philip R. Dunton,	Lebanon, Smith.
Martin Dupray,	Ash Valley, Pawnee.
Jessie Durant,	Jewell, Jewell,
Inez F. Durham,	Fairport, Russell.
Robert Eberhardt,	Maplehill, Wabaunsee.
Earl Lewis Edwards,	Phillipsburg, Phillips.
J. W. Eick,	Atchison, Atchison.
Harold Eike,	Leon, Butler.
Francis Lewellyn Englehardt,	Padonia, Brown.
Allen H. Erb,	Newton, Harvey.
Larned Haskell Espey,	Pleasanton, Linn.
Berkeley Evans,	Coffeyville, Montgomery.
Grace Evans,	Manhattan, Riley.
Ralph Waldo Evans,	Waldo, Russell.
Eugenia Fairman,	Wakefield, Clay.
Henry Farley,	Ætna, Barber.
Rena Amelia Faubion,	Oskaloosa, Jefferson.
Herman G. Feitz,	Hays, Ellis.
J. Howard Fergus,	Olathe, Johnson.
Lloyd Lester Ferguson,	Manhattan, Riley.
Harry P. Fisher,	McPherson, McPherson.
James Fleming,	Tecumseh, Shawnee.
John Flint,	Manhattan, Riley.
Fritz Florell,	Kackley, Republic.
Charles F. Folkers,	Bayneville, Sedgwick.
J. M. Forbes,	Lyndon, Osage,
Charles Earl Foresman,	Manhattan, Riley.
Walter Wilson Foresman,	Manhattan, Riley.
Charles Walter Frank,	Manhattan, Riley.
John Charlie Franz,	Holycross, Pottawatomie.
C. Earl Frisbie,	Wilder, Johnson.
Clarence Griffing Fry,	Manhattan, Riley.
Harry B. Fulker,	Oketo, Marshall.
Glenn Fuller,	Meade, Meade.
Arthur M. Fury,	Miltonvale, Cloud.
John Francis Gaden,	Riley, Riley.
Cecil Gamlen,	Vicksburg, *Mississippi.*

Name.	Post-office and county (or state).
Myrtle Garinger,	Salina, Saline.
Carrie M. Gates,	Asherville, Mitchell.
Richard William Getty,	Downs, Osborne.
George O. Gideon,	Adrian, Jackson.
Roy Gilliland,	Mayetta, Jackson.
John Gingery,	Haddam, Washington.
Naomi Gish,	Abilene, Dickinson.
Ina May Glick,	Manhattan, Riley.
Cledus Godlove,	Manhattan, Riley.
Joseph Peter Goebel,	Paola, Miami.
John H. Goheen,	Manhattan, Riley.
Charley Gorman,	Toronto, Woodson.
Maud Carrie Gossett,	Belpre, (Pawnee.)
Charles C. Gray,	Le Roy, Coffey.
(Mrs.) Ida May Grimes,	Woodston, Rooks.
Emery Cleveland Grizzell,	Claflin, Barton.
Edward Guild,	Washington, Washington.
Clarence G. Gustafson,	Galva, McPherson.
Merle I. Gwin,	Morrowville, Washington.
Curtis Hadley,	Cawker City, Mitchell.
Frank L. Hager,	Stafford, Stafford.
Anton Leadue Haggman,	Kackley, Republic.
Peter Halfman,	Ladder, (Greeley).
Abbie B. Hall,	St. John, Stafford.
Lillie Elma Hall,	Blaine, Pottawatomie.
Lucy A. Hall,	Westmoreland, Pottawatomie.
Thomas Hall,	St. John, Stafford.
Samuel William Hallock,	Englewood, Clark.
Frank Ermel Halm,	Topeka, Shawnee.
Vernon Halstrom,	Vliets, Marshall.
Jesse Hamilton,	Soldier, Jackson.
Pearl Hammett,	Schroyer, Marshall.
Oliver M. Haney,	Courtland, Republic.
R. D. Haney,	Courtland, Republic.
Alfred Charles Hansen,	Willis, Brown.
August Hanser,	Lenexa, Johnson.
Charles H. Hanson,	Greenleaf, Washington.
Grace L. Hanson,	Manhattan, Riley.
Louis William Hanson,	Greenleaf, Washington.
Henry H. Harbecke,	Whiting, Jackson.
Herman G. Harder,	Bushong, Lyon.
Bertha Harri,	Brookville, Saline.
Clara Harri,	Manhattan, Riley.
Herbert Harrington,	Colony, Anderson.
Carrie Olive Harris,	Manhattan, Riley.
Ina May Harris,	Garrison, Pottawatomie.
James K. Harris,	Great Bend, Barton.
James D. Harrod,	Stockholm, Wallace.
Oscar Burton Harts,	Ellsworth, Ellsworth.
Frank G. Haulenbeck,	Manhattan, Riley.

Name.	Post-office and county (or state).
Victor E. Hawkinson,	Cleburne, Riley.
Charles Appleton Hazzard,	Maplehill, Wabaunsee.
Will H. Healy,	Tyrone, *Oklahoma.*
Emma Florence Heard,	Glen Elder, Mitchell.
Orrin Randolph Hedges,	Howard, Elk.
Charles Heltman,	Webber, Jewell.
Christolph Hempler,	Stuttgart, Phillips.
Belle Hennon,	Morrowville, Washington.
Charles Hennon,	Morrowville, Washington.
Thomas Elliot Henry,	Meade, Meade.
William Andrew Henry,	Goff, Nemaha.
Nora E. Hepler,	Manhattan, Riley.
Walter Andrew Hepler,	Manhattan, Riley.
Clarence Ray Herren,	Nickerson, Reno.
Arthur W. Hewson,	Larned, Pawnee.
Blaine Hill,	Hutchinson, Reno.
Thomas Everett Hobart,	Grenola, Elk.
Orin M. Hobson,	Conway Springs, Sumner.
Ralph M. Hoch,	Hartford, Lyon.
Charles Irenus Hoffhines,	Marquette, McPherson.
Clarence Hole,	Manhattan, Riley.
Leonard Joseph Hole,	Manhattan, Riley.
Ruby Pearl Holloway,	Great Bend, Barton.
Blythe Holman,	Ellis, Ellis.
Elmer E. Hoover,	Dexter, Cowley.
Luther G. Howard,	Cawker City, Mitchell.
Clarence Howenstine,	Manhattan, Riley.
Irwin V. Howenstine,	Manhattan, Riley.
Charles F. Hughes,	Manchester, Dickinson.
Guy T. Hume,	Stafford, Stafford.
Florence Humphrey,	Courtland, Republic.
DeForest Hungerford,	Randolph, Riley.
Esta Jane Hungerford,	Soldier, Jackson.
Minta A. Hungerford,	Soldier, Jackson.
Charley Hunt,	Clifton, Clay.
Grace Hunt,	Clifton, Clay.
Russ T. Hutchins,	Cawker City, Mitchell.
Aldie Immenschuh,	Manhattan, Riley.
Ruth Inskeep,	Manhattan, Riley.
Emma Sophia Irving,	Baker, Brown.
Carl D. Irwin,	Salina, Saline.
Inez May Jackson,	Kidderville, Hodgeman.
Fleta Cecille Jefferson,	Buffalo, Wilson.
John Axel Jensen,	Randolph, Riley.
Edgar Jevons,	Wakefield, Clay.
Archie D. Johnson,	Chase, Rice.
Benjamin Olaf Johnson,	Wichita, Sedgwick.
Judith Johnson,	Axtell, Marshall.
Perry Johnson,	Aurora, Cloud.
Bertha Mae Johnston,	Allen, Lyon.

Name.	Post-office and county (or state).
R. Nell Johnston,	Allen, Lyon.
Robert C. Johnston,	Adams, Kingman.
Curtis E. Jones,	Plymouth, Lyon.
Jennie Jones,	Plymouth, Lyon.
John George Jones,	Walnut, Crawford.
Mayme Jones,	Madison, Greenwood.
Pearl Jones,	Halstead, Harvey.
William L. Jost,	Gridley, (Greenwood.)
Charles Kabance,	Holton, Jackson.
Tillie Marie Kammeyer,	Manhattan, Riley.
Burton O. Keck,	Summerfield, Marshall.
Charles A. Keener,	Topeka, Shawnee.
Paul V. Kelly,	McCracken, Rush.
Ida Belle Kennett,	North Topeka, Shawnee.
Harvey Arthur King,	Plevna, Reno.
Charles D. Kinnear,	Powhattan, Brown.
Roy James Kipp,	St. John, (Pratt).
Amanda C. Kittell,	McPherson, McPherson.
Charles A. Klein,	Reece, Greenwood.
Ross Knappenberger,	Penalosa, Kingman.
Roy C. Knappenberger,	Penalosa, Kingman.
Richard Arthur Kneeland,	Wakefield, Clay.
Merton Koontz,	Kinsley, Edwards.
Fred Krotzer,	Manhattan, Riley.
William Henry Lacy,	St. Marys, (Jackson).
Mary S. Lane,	Chalk, Wabaunsee.
James A. Langley,	Goodman, *Missouri.*
Edward Larson,	Vesper, Lincoln.
Leila Latimer,	Longford, Clay.
Charles A. Leech,	Fort Scott, Bourbon.
Nada Isabelle Leech,	Fort Scott, Bourbon.
Charles Allen Leger,	Sharon Springs, Wallace.
Albert Lemle,	Arlington, Reno.
Roy Stanley Lilley,	Piedmont, Greenwood.
Nellie Margaret Lind,	Saffordville, Chase.
Lena Linderman,	Formoso, Jewell.
Charles Lindsay,	Manhattan, Riley.
Elva M. Lindsay,	Grantville, Jefferson.
Mary Helen Olive Linhart,	Irving, Marshall.
Charles Lipperd,	Oxford, Sumner.
Walter Loch,	Summerfield, Marshall.
Grover Cleveland Logan,	Manhattan, Riley.
John C. Long,	Haddam, Washington.
John Bernard Loomis,	Emporia, Lyon.
John McCoy Love,	Partridge, Reno.
Joseph G. Lundholm,	Osage City, (Lyon).
Charles Lutz,	Marietta, Marshall.
Willby McAhren,	Caven, Pratt.
Ruth McAllister,	Manhattan, Riley.
Vern Allen McCall,	Utica, Ness.

Name.	Post-office and county (or state).
Leonard McColm,	Cherokee, Crawford.
William Bannister McCowen,	Great Bend, Barton.
C. Wayne McCreary,	Holton, Jackson.
William W. McCrory,	Mayetta, Jackson.
Walter McCullough,	Solomon, Dickinson.
Edwin McDonald,	Abilene, Dickinson.
Homer B. McFadden,	Maize, Sedgwick.
J. L. McFadden,	Riverside, Ness.
Edwin McLeish,	Beeler, Lane.
Benjamin Alexander McManis,	Manhattan, Riley.
Robe E. McVicar,	Onaga, Pottawatomie.
Ethel M. Machin,	Dorrance, Russell.
Floyd Russell Machin,	Dorrance, Russell.
Sadie Machin,	Dorrance, Russell
Claude Madison,	Manhattan, Riley.
Carl Madtson,	Beloit, Mitchell.
Florence Irene Mahin,	Smith Center, Smith.
Guillermo Maimy,	Foa-Alta, *Porto Rico.*
Webber Malcolm,	Oakhill, Clay.
Grover C. Mangan,	Garden City, Finney.
Bert Mann,	Kansas City, Wyandotte.
Joseph Francis Marron,	Ogden, Riley.
Mentor Marty,	Courtland, Republic.
Mary Jeanetta Maxwell,	Valley Falls, Jefferson.
Richard R. May,	St. Paul, Neosho.
John Edgar Mayer,	Blue Rapids, Marshall.
Allen Mayhew,	Belpre, Edwards.
John H. Mayhew,	Belpre, Edwards.
Vincent Mecke,	Anness, Kingman.
John Melenson,	Nadeau, Jackson.
Grover Meyer,	Basehor, Leavenworth.
Albert Cecil Miller,	Ransom, Ness.
Charles Porter Miller,	Grainfield, Gove.
Clarence Eugene Miller,	McPherson, McPherson.
Eliza Ann Miller,	Vining, Clay.
George Miller,	Milford, Geary.
Harry Delbert Miller,	Minneapolis, Ottawa.
Harry Vincent Miller,	Grainfield, Gove.
Henry Miller,	Milford, Geary.
Lee Connard Miller,	Ransom, Ness.
Charles O. Mitchell,	Manhattan, Riley.
Vellah Montgomery,	Manhattan, Riley.
Hugh R. Morrison,	Ford, Ford.
Homer E. Morton,	Oberlin, Decatur.
Edward S. Moser,	Enterprise, Dickinson.
Harold H. Munger,	Manhattan, Riley.
Almira V. Murphy,	Manhattan, Riley.
Charles Murphy,	Halstead, Harvey.
Grover C. Murphy,	Corbin, Sumner.
Anton Musil,	Blue Rapids, Marshall.

Name.	Post-office and county (or state)
Karl Bryant Musser,	Acme, Dickinson.
Marx Anthony Musser,	Acme, Dickinson.
Roy Myers,	Manhattan, Riley.
Charlie Myszka,	Garnett, Anderson.
Joseph M. Myszka,	Garnett, Anderson.
Telie E. B. Nafziger,	Partridge, Reno.
Asa Oaken Nash,	Manhattan, Riley.
James Nauertc,	Le Roy, Coffey.
Thomas B. Naylor,	Morrowville, Washington.
Herbert E. Nellis,	Dexter, Cowley.
Lloyd Nicolay,	Scranton, Osage.
Guy E. Niemyer,	Baker, Brown.
James E. Niles,	Colony, Anderson.
Laura B. Nixon,	Riley, Riley.
Ida Rose Nonamaker,	Osborne, Osborne.
Joseph H. Nonamaker,	Osborne, Osborne.
Maude Eveline Nonamaker,	Osborne, Osborne.
Nils Andy Nord,	Axtell, Marshall.
Laura L. Norris,	Winkler, Riley.
Edward Nulik,	Caldwell, Sumner.
Eleanor Marie Nygard,	Vesper, Lincoln.
Anna Marian Nystrom,	Topeka, Shawnee.
Robert W. Oakes,	McPherson, McPherson.
Edythe O'Brien,	Manhattan, Riley.
Philip Rupert Orndorff,	Lyons, Rice.
James Jeffrey Orr,	Manhattan, Riley.
Arthur J. Ostlund,	Clyde, (Washington).
Harry Elmer Overholt,	Jewell, Jewell.
William Charles Pacey,	Miltonvale, Cloud.
Frank L. Page,	Clyde, Cloud.
Benjamin H. Painter,	Beverly, Lincoln.
Hope Olive Palmer,	Geuda Springs, (Cowley).
Albert Parquette,	Miltonvale, Cloud.
Floyd Blanchard Park,	Clay Center, Clay.
Neoma Parker,	Linn, Washington.
Nelson Paro,	Ames, Cloud.
Blossom Paterson,	Manhattan, Riley.
Forrest Patterson,	Butte, *Montana.*
Elmer Westley Peters,	Manhattan, Riley.
Edwin Theo Peterson,	Courtland, Republic.
Grace Peterson,	Longford, Clay.
Kenneth Petty,	Morganville, Clay.
Ralph U. Pfouts,	Lancaster, Atchison.
Joseph Pfrang,	Wetmore, Nemaha.
Denver Sutton Pickenpaugh,	Comiskey, Lyon.
Ruth Pitman,	Manhattan, Riley.
Forrest Mark Platt,	Manhattan, Riley.
Lucy W. Platt,	Ætna, Barber.
Robert Platt,	Ætna, Barber.
Roy Wade Poage,	Kackley, Republic.

Name.	Post-office and county (or state).
John V. Poisett,	Erie, Neosho.
Thomas B. Porter,	Richfield, Morton.
William Leslie Porter,	Manhattan, Riley.
Lewis Berkeley Poteet,	Aldine, *Texas.*
Harry E. Potter,	Norwich, Kingman.
Horace G. Potter,	Topeka, Shawnee.
Harry Cassell Priddy,	Elmont, Shawnee.
Myldred Pringle,	Eskridge, Wabaunsee.
Walter Adaulph Probst,	Arkansas City, Cowley.
William Arthur Pulver,	Mankato, Jewell.
Aaron Purdy,	Arkansas City, Cowley.
Walter Purkey,	Hoyt, Jackson.
Robert Raisner,	Russell, Russell.
Reuben A. Reazin,	Macksville, Stafford.
Edwin Craig Rees,	Minneapolis, Ottawa.
Joseph Reeser,	Logan, Phillips.
Eva Mary Reeves,	Manhattan, Riley.
Katherine A. Reidy,	Junction City, Geary.
Dulcia Elizabeth Rendle,	Holycross, (Jackson).
Ralph Glee Rexroad,	Darlow, Reno.
J. Arthur Reynolds,	Paola, Miami.
Harry R. Richardson,	Moline, Elk.
Stephen Richardson,	Belle Plaine, Sumner.
Guy Dent Richey,	Emporia, Lyon.
Walter A. Rickert,	Haddam, Washington.
Ralph Ritter,	Spearville, Ford.
Floyd Joe Robbins,	Russell, Russell.
Lindsay Harlow Rochat,	Helmick, Morris.
Olive Edith Rundell,	Stafford, Stafford.
Grover Harrison Russell,	Somerset, Miami.
James Arthur Russell,	Louisburg, Miami.
Ira Watson Ryan,	El Dorado, Butler.
Philip William Ryan,	El Dorado, Butler.
Minnie Pearl Sanderson,	Marysville, Marshall.
Vern Sargent,	Manhattan, Riley.
George Schild,	Hanover, Washington.
Manuel Schimkowitsch,	Voda, Trego.
Fred Schlaefli,	Cawker City, Mitchell.
Roy G. Schrock,	Manhattan, Riley.
Ed. H. Schroer,	Parallel, Riley.
John Schultheiss,	Cherryvale, Montgomery.
Bertha Schwab,	Morganville, Clay.
Mabel F. Scott,	Waterville, Marshall.
Minnie M. Scott,	Waterville, Marshall.
Clide Sealock,	Fowler, Meade.
Cynthia Selvage,	Blue Rapids, Marshall.
Katie Anna Selvage,	Blue Rapids, Marshall.
Amelia Seng,	Salina, Saline.
August W. Seng,	Salina, Saline.
Earl Sewell,	Garnett, Anderson.

Name.	Post-office and county (or state).
Leonard Sexsmith,	Concordia, Cloud.
Philip L. Shaffer,	Manhattan, Riley.
William H. Shank,	Salina, Saline.
Clyde M. Shaw,	Concordia, Cloud.
Earl Shaw,	Eskridge, Wabaunsee.
Grace Ellen Shelley,	Manhattan, Riley.
Orval Shelton,	Galatia, Barton.
Etta Sherwood,	Manhattan, Riley.
Virgie Sherwood,	Manhattan, Riley.
Gladys Shinn,	Jewell, Jewell.
Clara Lois Shofe,	Manhattan, Riley.
William Preston Shuler,	Burrton, Harvey.
Carrie Marietta Shumway,	Manhattan, Riley.
Reynold Shuyler,	Sterling, Rice.
Lewis Anthony Sikes,	Leonardville, Riley.
John Leslie Simpson,	Bala, Riley.
Vida May Simpson,	Wamego, Pottawatomie.
Ray Thomas Singleton,	Quincy, Greenwood.
Robert Skiles,	Glen, Lincoln.
Vincent H. Slater,	Waverly, Coffey.
Clara Joyce Smith,	Norton, Norton.
Eads Edward Smith,	Holyrood, Ellsworth.
Fred E. Smith,	Beattie, Marshall.
Harry McMillen Smith,	Codell, Rooks.
Jack Sydney Smith,*	Lawrence, Douglas.
Mary Alice Smith,	Manhattan, Riley.
Walter Gillette Smith,	Manhattan, Riley.
Otis C. Snyder,	Dodge City, Ford.
Ronald Snyder,	Cawker City, Mitchell.
Luther O. Solt,	Zeandale, Riley.
Frank Augustine Sommers,	Manhattan, Riley.
Mattill Sondker,	Barnes, Washington.
Edna Grace Soupene,	Manhattan, (Pottawatomie).
Estella Pearl Soupene,	Manhattan, Riley.
Clyde Wilbur Speer,	Wichita, Sedgwick.
Robert Thomas Spriggs,	Westphalia, Anderson.
Adolph Stahr,	Clay Center, Clay.
Gail Harold Stark,	Ozawkie, Jefferson.
John Sherman Stauffer,	South Haven, Sumner.
Guy Henry Stephens,	Manhattan, Riley.
Lottie Geneva Stephenson,	Clements, Chase.
Clyde Raymond Stevens,	Humboldt, Allen.
J. Frank Stevens,	Humboldt, Allen.
Chesley Earl Stigers,	Manchester, Harper.
Robert Stocker,	Augusta, Butler.
Delia Stoddard,	Manhattan, Riley.
Mabel C. Stratton,	Morrowville, Washington.
M. Roy Stretch,	Monument, Logan.
Walter W. Strite,	Manhattan, Riley.

*Deceased.

Name.	Post-office and county (or state).
Alden G. Strong,	Goddard, Sedgwick.
Elsie Grace Sweany,	Fostoria, Pottawatomie.
Mary Rebecca Sweany,	Olsburg, Pottawatomie.
Ben F. Sweet,	Manhattan, Riley.
Elton C. Swingle,	Manhattan, Riley.
May Swingle,	Manhattan, Riley.
Randall E. Talley,	Overbrook, Osage.
Vernon Fisher Tannehill,	Wakefield, Clay.
Dorothy Taylor,	Independence, Montgomery.
Harold A. Thackrey,	Kansas City, Wyandotte.
Forrest L. Thomas,	Le Roy, Coffey.
Viola Jeannette Thompson,	Harveyville, Wabaunsee.
Jesse H. Thornton,	Manhattan, Riley.
Everett Will Titterington,	Lawrence, Douglas.
J. Harry Tonkin,	Abilene, Dickinson.
Ada Torrence,	Junction City, Geary.
Harry Totten,	Haddam, Washington.
Robert Thadious Towler,	Ulysses, Grant.
Eva L. Train,	Kansas City, Wyandotte.
Earl Jay Trosper,	Beattie, Marshall.
Laura Trosper,	Manhattan, Riley.
Thomas Abraham Trull,	Hiawatha, Brown.
Edgar Turkle,	Belle Plaine, Sumner.
Julia Elizabeth Turner,	Clifton, Clay.
Joe Vale,	Webber, Jewell.
John Isaac Vale,	Webber, Jewell.
Richard Veeh,	Phillipsburg, Phillips.
Ella Mariam Voiles,	Manhattan, Riley.
Estelle E. Wadsworth,	Manhattan, Riley.
Thurman Solen Walker,	Valley Falls, Jefferson.
Ida R. Walls,	Irving, Marshall.
Russell S. Walter,	Junction City, Geary.
Ralph Warden,	Lyons, Rice.
Harold Warner,	Arlington, Reno.
Chauncey Watson,	Belle Plaine, Sumner.
Ulric Waysman,	Tecumseh, Shawnee.
Andrew Wear,	Barnard, Lincoln.
Ernest W. Wells,	Woodston, Rooks.
John L. Welsh,	Clifton, Washington.
Lillian M. Wendt,	Elmo, Dickinson.
Edgar Westover,	Brownell, Ness.
Andrew Jefferson Wheeler,	Jefferson, Montgomery.
Clarence Wheeler,	Jefferson, Montgomery.
Clyde Ward Whipple,	Dellvale, Norton.
Florence Whipple,	Longford, Clay.
Frank Elbert Whipple,	Longford, Clay.
Glen Edwin Whipple,	Olivet, Osage.
John Leroy Whipple,	Longford, Clay.
Arthur J. White,	Coldwater, Comanche.
Gelene White,	Newton, Harvey.

Name.	Post-office and county (or state).
Jacob Whitfield,	Wabaunsee, Wabaunsee.
Lantz Merril Whitford,	Kansas City, Wyandotte.
William H. Wight,	Antelope, Marion.
Clarence O. Wilcox,	Bancroft, Nemaha.
Walter Wilderson,	Adrian, Jackson.
Charles M. Wilke,	Troy, Doniphan.
David Balon Williams,	Meade, Meade.
Estella Williams,	Plymouth, Lyon.
Harry Byron Williams,	Topeka, Shawnee.
Jennie Williams,	Meriden, Jefferson.
Owen E. H. P. Williams,	Bunker Hill, *Illinois.*
Edna Leona Willis,	Manhattan, Riley.
Charley Wilson,	Asherville, Mitchell.
James Arthur Wilson,	Valley Center, Sedgwick.
John Thomas Wilson,	Winfield, Cowley.
Oscar Benjamin Wilson,	Webber, Jewell.
Joseph Roy Witmer,	Baileyville, Nemaha.
Arthur Grout Woodbury,	Cawker City, Mitchell.
Harry Woodbury,	Cawker City, Mitchell.
W. George Woodsum,	Manhattan, Riley.
Lory E. Wright,	Horton, Brown.
Theodora Wright,	Brookville, Saline.
Fred H. Wulfkuhle,	Lecompton, Douglas.
Edgar Wynkoop,	Atchison, Atchison.
Grant Yaussi,	Baker, Brown.
Charles L. Zoller,	Kirwin, Phillips.
Jacob W. Zook,	Larned, Pawnee.

SPECIAL STUDENTS.

Clara Grace Alexander,	Manhattan, Riley.
Augusta C. Amos,	Manhattan, Riley.
Harold H. Amos,	Manhattan, Riley.
Lettie Mae Aumann,	Geuda Springs, (Cowley).
Marguerite Barbour,	Manhattan, Riley.
Lena M. Boyce,	Rocky Mount, *Missouri.*
Bertha Floy Caldwell,	Manhattan, Riley.
Guy Marion Caldwell,	Garnett, Anderson.
Reppie Carey,	Manhattan, Riley.
Gertrude Eakin,	Manhattan, Riley.
William L. Enfield,	Wichita, Sedgwick.
Annie Fairman,	Wakefield, Clay.
Lucius Grant Folsom,	Little River, Rice.
David Emerson Gall,	Reserve, Brown.
Lloyd McConnell Graham,	Topeka, Shawnee.
James William Harner,	Manhattan, Riley.
Thomas Haslam,	Council Grove, Morris.
Vernon Lorenzo Heath,	Peabody, Marion.
Alvalina Thankful Hill,	Manhattan, Riley.
Inez Leota Hjort,	Manhattan, Riley.
Harvey A. Horton,	McPherson, McPherson.

Name.	Post-office and county (or state).
Will C. Johnston,	Manhattan, Riley.
Edith Ellen Jones,	Cawker City, Mitchell.
Andrew DeLos McCampbell,	Manhattan, Riley.
Nellie C. Mitchell,	Manhattan, Riley.
Atsushi Miyawaki,	Manhattan, Riley.
Mamie Noble,	Whiterocks, *Utah.*
Alice E. O'Brien,	Manhattan, Riley.
Bertha Palmer,	Netawaka, Jackson.
Flora Perry,	Little River, Rice.
Mettie Antoinette Reser,	Bigelow, Marshall.
Genevieve Louise Riddle,	Minneapolis, Ottawa.
Fluta Mabel Roberts,	Morrill, Brown.
Martin G. Smith,	Waverly, Coffey.
Winfield Weber Smith,	Manhattan, Riley.
Frank Jacob Spuhler,	Manhattan, Riley.
Elvis Thaddeus Summitt,	Wichita, Sedgwick.
Shige Suzuki,	Manhattan, Riley.
Walter Taylor,	Manhattan, Riley.
Horace E. Ulrich,	Manhattan, Riley.
Petra C. Wahlgreen,	St. Louis, *Missouri.*
Julia Verona Wendel,	Beattie, Marshall.
Hannah Wetzig,	Manhattan, Riley.
Waldo Whitman,	Lawrence, Douglas.
Fred Lawrence Williams,	Olpe, Lyon.
Paul H. Winne,	Manhattan, Riley.

DAIRY SHORT COURSE.

James Robert Brock,	Frankfort, Marshall.
Zevelin Norman Brown,	Topeka, Shawnee.
James Martin Cook,	Effingham, Atchison.
Raymond Leo DeVoe,	Osawatomie, Miami.
Alvin Eshelman,	Hope, Dickinson.
Walter L. Hart,	Crestline, Cherokee.
Christolph Hempler,	Stuttgart, Phillips.
Walter S. Lawrence,	Galena, Cherokee.
Robert J. Mackey,	Topeka, Shawnee.
Homer E. Morton,	Oberlin, Decatur.
Charles King Paul,	Pauline, Shawnee.
Lloyd Peak,	Parsons, Labette.
Ola W. Rathbone,	Manhattan, Riley.
Ned Smith,	Manhattan, Riley.
Earl Starns,	Leavenworth, Leavenworth.
Anshelm J. Strom,	Dwight, Morris.
Shige Suzuki,	Manhattan, Riley.
C. F. Titterington,	Lawrence, Douglas.
Everett Will Titterington,	Lawrence, Douglas.
Richard Veeh,	Stuttgart, Phillips.
Harold Warner,	Arlington, Reno.
W. George Woodsum,	Manhattan, Riley.

FARM DAIRY SHORT COURSE.

Name.	Post-office and county (or state).
John Bowman,	Sibley, Douglas.
Edwin Lloyd Cole,	Manhattan, Riley.
Edwin M. Cook,	Effingham, Atchison.
Percival William George Law,	Maplehill, Wabaunsee.
Elmer Lund,	Lindsborg, McPherson.
George H. Phinney,	Lebo, Coffey.

FARMERS' SHORT COURSE—Second Term.

Seth Andrew Abbott,	Dalton, Sumner.
Bert B. Anderson,	Bigelow, Marshall.
Homer Emory Baker,	Washington, Washington.
Cyrus James Creighton,	Morrowville, Washington.
Clarence H. DeLong,	Emporia, Lyon.
Earl J. DeLong,	Emporia, Lyon.
John S. Greenlund,	Clifton, Washington.
Richard D. Hall,	Potter, Atchison.
Claude N. R. Hansen,	Jamestown, Cloud.
Rudolph Hobbie,	Tipton, Mitchell.
Peter H. Jorgenson,	Logan, Phillips.
Henry T. Kasl,	Concordia, Cloud.
Thomas S. Kutis,	Bremen, Marshall.
John Arthur Lind,	Saffordville, Chase.
Oscar Linder,	Randolph, Riley.
Glen Livers,	Waterville, Marshall.
Andrew DeLos McCampbell,	Manhattan, Riley,
John W. McConnell,	Cherryvale, (Labette).
J. W. Mercer,	Geuda Springs, Sumner.
Arthur Leroy Olson,	Manhattan, (Geary).
Scott Overfield,	Baker, Brown.
Victor Palmquist,	Concordia, Cloud.
Clyde E. Phinney,	Lebo, Coffey.
Delbert Henry Rasmussen,	Clyde, Cloud.
Conrad Rice,	Hiawatha, Brown.
Fred Sheck,	Wellington, Sumner.
Edward Stegeman,	Tampa, Marion.
Herbert C. Strom,	Dwight, Morris.
John Lee Teagarden,	La Cygne, Linn.
William Tudor,	Holton, Jackson.
Guy Manley Veburg,	Ottawa, Franklin.

FARMERS' SHORT COURSE—First Term.

Thomas Thompson Baker,	Peabody, Marion.
John Barthold, jr.,	Partridge, Reno.
Charles Atwood Blackwelder,	Sawyer, Pratt.
Earl D. Blackwelder,	Sawyer, Pratt.
Mathias J. Bohnen,	Dorrance, Russell.
Clarence V. Broberg,	Vesper, Lincoln.
John Arthur Broberg,	Vesper, Lincoln.
Jesse C. Brown,	Cedron, Lincoln.

Name.	Post-office and county (or state).
Charles Harry Burge,	Topeka, Shawnee.
Walter Harvey Burr,	Coldwater, Comanche.
Clifford Lewis Buskirk,	Hutchinson, Reno.
Charles Cain,	Burlingame, Osage.
Rolland Campbell,	Meriden, Jefferson.
William S. P. Cassell,	Manhattan, Riley.
John William Cory,	Drexel, *Missouri.*
John D. Denny,	Lexington, Clark.
Edward Drennan,	Blue Rapids, Marshall.
Irwin L. Dresher,	Lyons, Rice.
Harry Oliver Ek,	McPherson, McPherson.
John C. Emick,	Miltonvale, Cloud.
Earl George Erskine,	Edgerton, Johnson.
Samuel T. Glass,	Eskridge, Wabaunsee.
Ewald C. Glitzke,	Cawker City, Mitchell.
Gregor Glitzke,	Cawker City, Mitchell.
Hugo Glitzke,	Cawker City, Mitchell.
Robert Glitzke,	Cawker City, Mitchell.
Joseph Peter Goebel,	Paola, Miami.
Peter Goeken,	Linn, Washington.
Herman A. Goff,	Arkansas City, Cowley.
Eugene Grady,	Dighton, Lane.
Oscar H. Grimes,	Woodston, Rooks.
Homer Guttridge,	Cullison, Pratt.
Joseph Raymond Guttridge,	Cullison, Pratt.
Bennie H. Hanneman,	Lincoln, Lincoln.
Edward C. O. Hartke,	Lincolnville, Marion.
Vernon Lorenzo Heath,	Peabody, Marion.
Clarence Ray Herren,	Nickerson, Reno.
Arthur W. Hewson,	Larned, Pawnee.
Hugh Hill,	Hope, Dickinson.
Homer James,	North Topeka, (Jefferson).
George Janssen,	Lorraine, Ellsworth.
Emil J. Johnson,	Axtell, Marshall.
Albert W. Jones,	Bendena, Doniphan.
Jesse Jones,	Oskaloosa, Jefferson.
Guy H. Kehl,	Coldwater, Comanche.
Freas Kelchner,	Holton, Jackson.
Ross Knappenberger,	Penalosa, Kingman.
Roy C. Knappenberger,	Penalosa, Kingman.
Gustav W. Kretzman,	Marysville, Marshall.
William Kroesch,	Lorraine, Ellsworth.
Richard Lessman,	Tipton, Mitchell.
William Roy Linton,	Mayetta, Jackson.
Henry C. Lucas,	Frankfort, Marshall.
Henry McAninch,	Manhattan, (Pottawatomie).
Glenn McConnell,	Cherryvale, Montgomery.
Benjamin G. McCormick,	Augusta, Butler.
J. Jasper McCray,	Antelope, Marion.
Bert J. McFadden,	Stafford, Stafford.

Name.	Post-office and county (or state).
Robe E. McVicar,	Onaga, Pottawatomie.
Guy C. Miller,	Dighton, Lane.
Lyman S. Miller,	Dighton, Lane.
Ottley Sheldon Rylatt Mings,	Burlingame, Osage.
Roscoe Alvie Morrell,	Liberal, Seward.
Arthur Newcombe,	Great Bend, Barton.
William Franklin Noble,	St. John, Stafford.
Joseph Nonamaker,	Osborne, Osborne.
Homer Emmett O'Neil,	Wellsville, Franklin.
Emmett Earl Page,	Bradford, Wabaunsee.
Charles Francis Park,	Miltonvale, Cloud.
Otto J. Pearson,	Assaria, Saline.
Earnest C. Penley,	Augusta, Butler.
Floyd O. Perkins,	Wellsville, Franklin.
S. Clayton Phillips,	Walton, Harvey.
Edward Alonzo Picking,	Abilene, Dickinson.
Charles Potter,	New Albany, Wilson.
Holmes L. Rinehart,	Bernal, Reno.
John Ralph Rivenburg,	Peabody, Marion.
Walter S. Robinson,	Nashville, Kingman.
Ira B. Rundell,	Stafford, Stafford.
E. L. Schuerman,	Abilene, Dickinson.
Clarence Shipley,	North Topeka, Shawnee.
Walter B. Skinner,	North Topeka, Shawnee.
Harry William Thompson,	Garrison, Pottawatomie.
Ira Thornton,	Clay Center, Clay.
Walter H. Toogood,	Maplehill, Wabaunsee.
Jesse Wilson,	Webber, Jewell.
William Wilson,	Oswego, Labette.

DOMESTIC SCIENCE SHORT COURSE—SECOND TERM.

Claribel Adams,	Belleville, Republic.
Mary Etta Allison,	Lyndon, Osage.
Amanda Anderson,	Vesper, Lincoln.
Lettie May Aumann,	Geuda Springs, (Cowley).
Hazel H. Ballou,	Delphos, Ottawa.
Dora Wilhelmina Bayer,	Toronto, Woodson.
Lillie Olive Berg,	Cleburne, Riley.
Lydia L. Berg,	Windom, McPherson.
Leola Pearl Bixby,	Manhattan, Riley.
Ida E. Blackwelder,	Sawyer, Pratt.
Achsah M. Campbell,	Abilene, Dickinson.
Alfhild Marie Dahl,	Montrose, Jewell.
Alice C. DeYoung,	Manhattan, Riley.
Annie Edwards,	Manhattan, Riley.
Cora Ekblad,	Cleburne, (Pottawatomie).
Mary Alice Evans,	Colby, Thomas.
Wilma Dette Evans,	Colby, Thomas.
Anna Maud Fitz,	Vinland, Douglas.

Name.	Post-office and county (or state).
Nellie E. Franz,	St. Marys, Pottawatomie.
Leota Estella Headington,	Manhattan, Riley.
Anna M. Heller,	Dillon, Dickinson.
Cora E. Hepworth,	Burlingame, Osage.
Carrie Hewson,	Larned, Pawnee.
Emely Sophia Hokanson,	Manhattan, Riley.
Nettie Huse,	Manhattan, Riley.
Anna Christina Jenson,	Atchison, Atchison.
Margaret Jensena Jenson,	Atchison, Atchison.
Effie Johnson,	Irving, Marshall.
Rosa Anna Johnson,	Salina, Saline.
Mertie King,	Plainville, Rooks.
Ada E. LaShorn,	Manhattan, Riley.
Hilda Laurina Lofstedt,	Osage City, Osage.
Effie May Morrow,	Blue Rapids, Marshall.
Clara Olene Peterson,	Vesper, Lincoln.
Mary Ellen Peterson,	Inman, McPherson.
Sadie May Peterson,	Lyndon, Osage.
Louise W. Richter,	Oskaloosa, Jefferson.
Minnie Pearl Sanderson,	Marysville, Marshall.
Grace Evelyn Simpson,	Manhattan, Riley.
Elizabeth Toll,	Salina, Saline.
Gelene White,	Newton, Harvey.

DOMESTIC SCIENCE SHORT COURSE—First Term.

Lena M. Boyce,	Rocky Mount, *Missouri.*
Pauline Bryant,	Bethany, *Missouri.*
Celia Daley,	Beloit, Mitchell.
Lucy A. Hall,	Westmoreland, Pottawatomie.
Elizabeth Klein,	Clay Center, Clay.
Mary Manchester,	Paola, Miami.
Almira V. Murphy,	Manhattan, Riley.
Edna Mae Perry,	Manhattan, Riley.
Mabel I. Raines,	Ozawkie, Jefferson.
Jessie Selby,	Manhattan, Riley.
Minnie Otelia Swanson,	Windom, McPherson.
Josephine May Tobey,	Manhattan, Riley.
Louise M. Wertenberger,	Waterville, Marshall.

DOMESTIC SCIENCE—Summer Term.

Kate Alexander,	Welda, Anderson.
Cecile Allentharp,	Manhattan, Riley.
Grace Allingham,	Manhattan, Riley.
Clare Biddison,	Manhattan, Riley.
Ruth Cooley,	Manhattan, Riley.
Reva Violet Cree,	Manhattan, Riley.
Harriet Marie Esdon,	Olsburg, Pottawatomie.
Lois Failyer,	Manhattan, Riley.
Stella Finlayson,	Summerfield, Marshall.
Mary Eliza Gaden,	Riley, Riley.

Name.	Post-office and county (or state).
(Mrs.) Mabel Florence Hall,	Junction City, Geary.
Lola May Harris,	Harveyville, Wabaunsee.
Marguerite Hartwig,	Goodland, Sherman.
Mamie Magdalene Hassebroek,	Manhattan, Riley.
Marion Hepworth,	Burlingame, Osage.
Edith Belle Ingham,	Topeka, Shawnee.
Jennie Anna Johnson,	Russell, Russell.
Mary Carrie Johnson,	Russell, Russell.
Edith Ellen Jones,	Cawker City, Mitchell.
Margaret Justin,	Manhattan, Riley.
Clara Myrtle Kahl,	Manhattan, Riley.
Olive R. McKeeman,	Soldier, Jackson.
Ellen Letitia Meldrum,	Topeka, Shawnee.
Anna Minert,	Bennington, Ottawa.
Pearl Nance,	Morrill, Brown.
Rose Ordnung,	Manhattan, Riley.
Jennie Inez Ritner,	Manhattan, Riley.
Aline Robidoux,	Manhattan, Riley.
Clara Dorothy Schield,	Hanover, Washington.
Effie Luella Seaman,	Carbondale, Osage.
Marietta Smith,	Manhattan, Riley.
Phœbe Jane Smith,	Manhattan, Riley.
Doris M. Train,	Manhattan, Riley.
May Umberger,	Hymer, Chase.
Grace Walworth,	Topeka, Shawnee.
Ethel Mary Whipple,	Longford, Clay.
Georgia Withington,	Manhattan, Riley.
Ora Gertrude Yenawine,	Manhattan, Riley.

SUMMARY.

Classes.	*Men.*	*Women.*	*Totals.*
Graduate	14	16	30
Senior	73	37	110
Junior	93	52	145
Sophomore	144	70	214
Freshman	256	117	373
Preparatory	451	147	598
Special	22	24	46
Dairy	28	.....	28
Farmers' Short Course	118	.....	118
Domestic Science Short Course	.....	92	92
Counted twice	33	31	64
Totals	1,166	524	1,690

From ninety-seven counties of Kansas, 1658.
From ten other states, 25; Philippine Islands, 6; Porto Rico, 1.

RECORD OF ATTENDANCE.
1879–1906.

College Year.	Domestic science short course	Farmers' short course	Dairy	Apprentice	Special	Preparatory	First year	Second year	Third year	Fourth year	Postgraduate	Counted twice	Total	Graduated
1878–79	....	....	....	....	1	....	89	89	16	12	....	....	207	9
1879–80†	....	....	....	....	1	....	166	61	35	11	2	....	276	7
1880–81‡	....	....	....	....	6	....	178	48	24	9	2	....	267	8
1881–82	....	....	....	....	5	....	227	50	19	11	....	....	312	9
1882–83	....	....	....	....	4	....	241	60	30	12	....	....	347	12
1883–84	....	....	....	....	2	....	255	92	26	18	2	....	395	17
1884–85	....	....	....	....	2	....	271	71	36	16	5	....	401	14
1885–86	....	....	....	....	1	....	273	91	35	24	4	....	428	21
1886–87	....	....	....	....	....	....	303	100	44	24	10	....	481	21
1887–88	....	....	....	....	....	....	305	92	46	27	2	....	472	22
1888–89†	....	....	....	....	....	....	266	103	41	28	7	....	445	25
1889–90	....	....	....	....	1	....	307	105	63	28	10	....	514	27
1890–91†	....	....	....	....	....	....	343	135	50	53	12	....	593	52
1891–92	....	....	....	....	....	....	336	139	62	37	10	....	584	35
1892–93	....	....	....	....	....	....	339	110	66	43	29	....	587	39
1893–94	....	....	....	....	....	....	275	141	72	42	25	....	555	39
1894–95	....	....	....	....	5	....	276	108	89	64	30	....	572	57
1895–96	....	....	....	....	3	....	353	121	67	71	32	....	647	66
1896–97*	....	....	....	....	6	67	321	163	69	62	46	....	734	55
1897–98	....	....	6	9	15	77	316	174	77	82	57	10	803	69
1898–99	....	....	26	35	40	110	306	177	92	65	40	21	870	53
1899–00†	24	47	57	50	32	162	376	163	109	69	27	22	1094	58
1900–01	47	109	72	79	23	318	348	183	80	74	40	52	1321	60
1901–02	41	125	66	87	19	298	396	206	120	65	32	59	1396	52
1902–03	63	123	38	78	36	342	471	229	141	86	24	57	1574	54
1903–04†	51	122	16	72	33	443	403	206	161	114	20	36	1605	102
1904–05†	88	99	24	12	30	500	289	198	122	117	26	43	1462	107
1905–06	92	118	28	....	46	598	373	214	145	110	30	64	1690	....

* Previous to 1896–'97 the preparatory students were not listed separately from the first-years.
†Requirements for admittance raised. ‡Course strengthened.

Graduates.

This list is made from the best data obtainable. A favor will be conferred by notifying the College Secretary of any errors or changes.

1867.

Henry L. Denison, A. M., 1257 Clarkson street, Denver, Colo. Official court stenographer.

Belle M. (Haines) Pond, A. M. Died in 1905.

Emma Laura (Haines) Bowen, A. M., Manhattan, Kan. Field secretary W. B. M. I.

John J. Points, A. M., box 1057, Paxton hotel, Omaha, Neb. Secretary Kitchen Bros. Hotel Company.

Martha A. (White) Abbott, A. M., 288 Oakley boulevard, Chicago, Ill. Housewife.

1871.

Emily M. (Campbell) Robinson, A. B. Died in 1877.

Ellen F. (Denison) Whedon, A. B., 1845 D street, Lincoln, Neb. Housewife.

Luella M. Houston, A. B., 1216 South Tenth street, Denver, Colo. Music teacher

Charles O. Whedon, B. S., 1845 D street, Lincoln, Neb. Attorney at law.

Kate E. (White) Turley, A. B., 973 Jackson boulevard, Chicago, Ill. Housewife.

1872.

Theophania M. (Haines) Huntington, A. B. Died in 1880.

Albert Todd, A. M., Army building, St. Paul, Minn. Major artillery corps, United States army.

Samuel Wendell Williston, A. M., M. D., Ph. D., Walker Museum, University of Chicago, Chicago, Ill. Professor of paleontology.

1873.

Eliza Z. (Davis) Stringfield, A. B., 1111 Santee street, Los Angeles, Cal. Housewife.

Sam Kimble, A. B., Manhattan, Kan. Judge twenty-first district.

1874.

Harry A. Brous, A. M., M. D. Died in 1906.

Edgar F. Clark, A. B.

John E. Davis, B. S., D. D. S., 1143 Oak street, Columbus, Ohio. Dentist.

William D. Gilbert, A. B. Government inspector of rural mail routes.

A. Judson White, A. B., 288 Oakley boulevard, Chicago, Ill. Minister.

1875.

Reuben E. Lofinck, B. S., Manhattan, Kan. Merchant.

Alice E. (Stewart) Points, A. M., 40 Vroom street, Jersey City, N. J. Teacher city schools.

1876.

George A. Gale, A. B., Mangonia, Fla. Poultry-raiser.
Ella M. (Gale) Kedzie, A. B., Oakwood, Agricultural College, Mich. Teacher of art.
Carrie M. Kimball, A. B., R. F. D. No. 2, Santa Ana, Cal. Housekeeper.
Nellie (Sawyer) Kedzie-Jones, M. S., 421 Pearl street, Kalamazoo, Mich. Housewife.
Minerva E. (Whitman) Heiser, A. B., Lyndon, Kan. Housewife.

1877.*

Ella S. Child, Manhattan, Kan. Dressmaker.
George H. Failyer, M. S., bureau of soils, Washington, D. C. Assistant in soil chemistry, United States Department of Agriculture.
John S. Griffing, M. S., R. F. D. No. 16, Tecumseh, Kan. Dairy farmer.
Walter Cyrus Howard, B. D., Newcastle, Placer county, California. Minister.
Frederick O. Hoyt, M. D. Died in 1884.
Louis E. Humphrey, Chapman, Kan. Druggist.
James F. La Tourrette, Sitka, Alaska. Missionary.
Marion Franklin Leasure, LL. B., La Cygne, Kan. Attorney at law.
William Ulrich, M. S., Chautauqua, Ill.

1878.

Albert N. Godfrey, M. S., box 272, Port Townsend, Wash. Civil engineer.
Charles S. McConnell. Died in 1902.
George S. Platt. Died in 1878.
Amos E. Wilson, 1008 S. Fourth street, Leavenworth, Kan. Cashier First National Bank, and president Missouri Valley Bridge and Iron Company.

1879.

Arthur T. Blain, Duarte, Cal. Nurseryman.
Etta (Campbell) Blain, Duarte, Cal. Housewife.
Wilmer K. Eckman, Longview, Tex. Bank cashier.
Corwin J. Reed, R. F. D. No. 1, Havensville, Kan. Farmer.
Harry C. Rushmore, 357 Waverly street, Kansas City, Kan. Traveling salesman for Norvell-Shapleigh Hardware Company.
Wm. H. Sikes, Leonardville, Kan. Merchant.
Lewis A. Salter, Carmen, Okla. Editor Carmen *Headlight*, and lawyer.
Ella (Vincent) McCormick, Clay Center, Kan. Housewife.
Clarence E. Wood, A. B., Cherokee, Okla. Editor.

1880.

Augustine Beacham. Died about 1890.
Lizzie R. (Cox) Kregar, 503 W. First street, Junction City, Kan. Housewife.
Emma (Hoyt) Turner, 524 S. Eddy street, Fort Scott, Kan. Housewife.
Emma (Knostman) Huse, Manhattan, Kan. Housewife.
Grace (Parker) Perry, box 85, Pocatello, Idaho. Housewife.
Noble Asa Richardson, 780 Fifth street, San Bernardino, Cal. Merchant.
Marie E. (Sickels) Davis. Died in 1894.

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* B. S. has been granted all graduates since 1877.

1881.

Flora (Donaldson) Reed, R. F. D. No. 1, Havensville, Kan. Housewife and journalist.

Ulysses Grant Houston, Amherst, Mass. Lecturer on Bible lands and archæology.

Fletcher M. Jeffery, 747 New York block, Seattle, Wash. Lawyer.

William J. Jeffery. Died in 1900.

Darwin S. Leach.

William J. Lightfoot, 706 Fifth avenue, Spokane, Wash. United States examiner of surveys and special disbursing agent.

Dalinda (Mason) Cotey, 210 W. First South street, Logan, Utah. Dean of school of domestic science and arts, State Agricultural College of Utah.

Wirt S. Myers, Warrington, Fla. Pattern-maker in department of steam engineering, Pensacola navy-yard.

1882.

J. Chester Allen. Died in 1885.

Ida (Cranford) Sloan, 2524 Gould avenue, N. Fort Worth, Tex. Housewife.

Edward V. Cripps.

Warren Knaus, M. S., 512 S. Main street, McPherson, Kan. Editor and proprietor of *Democrat*.

Mattie E. (Mails) Coons, Manhattan, Kan. Housewife.

Allie S. (Peckham) Cordry, 1725 Appleton avenue, Parsons, Kan. Housewife.

Belle (Selby) Curtice, The Densmore, 912 Locust street, Kansas City, Mo. Housewife.

Burton L. Short, 47 N. Valley street, Kansas City, Kan. Assistant postmaster.

John A. Sloan, M. D. V., N. Fort Worth, Tex. United States meat inspector.

1883.

James W. Berry, Jewell, Kan. Lumberman and contractor; Regent Kansas State Agricultural College.

Mary C. (Bower) Ady, Manhattan, Kan. Housewife.

Lewis W. Call, LL. B., LL. M., D. C. L., 1448 Newton street, Washington, D. C. Chief clerk, judge-advocate general's office, United States War Department.

Emma E. Glossop, 1326 Francis street, St. Joseph, Mo. Journalist.

William J. Griffing, R. F. D. No. 1, Manhattan, Kan. Farmer and fruit-grower.

Phœbe E. (Haines) McKeen, M. S., Manhattan, Kan. Housewife.

Hortense L. (Houston) Martin, 501 Nebraska street, Warren avenue, Miami, I. T. Housewife.

Jacob Lund, M. S., Manhattan, Kan. Superintendent of heat and power department, Kansas State Agricultural College.

Katie I. (Meguire) Sheldon.

J. Dana Needham, Lane, Kan. Merchant.

Milan T. Ward, M. D., Toulon, Ill. Physician.

Julius T. Willard, M. S., Manhattan, Kan. Professor of chemistry, Kansas State Agricultural College; director Experiment Station.

1884.

Emmett S. Andress, Lakin, Kan. Farmer.
Florence J. (Brous) Smalley, 608 Freeman avenue, Kansas City, Kan. Housewife.
Bartholomew Buchli, M. S., D. V. M., Sunbeam, Kan. Farmer and stockman.
John H. Calvin, LL. B. Died in 1898.
William A. Corey, 211 New High street, Los Angeles, Cal. Writer on political, social and general topics.
Henry M. Cottrell, M. S., 8 S. Crystal street, Elgin, Ill. President of Cottrell Feed Company.
Carrie F. (Donaldson) Brown. Died in 1902.
Florence A. Donaldson. Died in August, 1888.
Frank W. Dunn.
I. Day Gardiner. Died in 1899.
Edwin H. Kern, 528 Main street, Grand Junction, Colo. Civil engineer.
Marion M. Lewis. Died in 1895.
Charles L. Marlatt, M. S., 1440 Massachusetts avenue, N. W., Washington, D. C. Entomologist in charge of experimental field-work, United States Department of Agriculture.
Lincoln H. Neiswender, R. F. D. No. 6, North Topeka, Kan. Farmer and stock-raiser.
Geo. C. Peck, 235 W. First street, Junction City, Kan. Grain buyer for Midland Elevator Company.
Hattie L. (Peck) Berry, Jewell, Kan. Housewife.
John W. Shartel, Oklahoma, Okla. Lawyer.

1885.

Thomas Bassler, R. F. D. No. 2, Ponca, Okla. Farmer.
Albert Deitz, 2747 Holly street, Kansas City, Mo. Grocer and meat dealer.
Geo. E. Hopper, M. S., 303 N. Third street, Arkansas City, Kan. Contractor.
Florence F. Hough.
Frank A. Hutto, M. S., Ph. D., 505 Jefferson street, Boise, Idaho. Attorney at law.
J. Allen Lewis, M. S., C. E., 383 Third street, Brooklyn, N. Y. Civil engineer.
Nellie J. Murphy, Sterling, Kan. Nurse.
Arthur L. Noyes, R. F. D. No. 1, Zeandale, Kan. Farmer and stock-raiser.
Clarence D. Pratt, 345–347 Elm street, Dallas, Tex. Secretary Lincoln Paint and Color Company.
Rollin R. Rees, Minneapolis, Kan. District judge.
Frederick J. Rogers, M. S., 4 Lasnen street, Stanford University, Cal. Assistant professor of physics, Leland Stanford Jr. University.
Dorothy E. C. (Secrest) Hungerford, Randolph, Kan. Housewife.
Grace L. (Wonsetler) Rude, M. D., R. F. D. No. 1, Hoisington, Kan. Housewife.
Effie E. (Woods) Shartel, Oklahoma, Okla. Housewife.

1886.

Lillie B. Bridgman, M. S., Berkeley, Cal. Teacher of physics, California School of Mechanical Arts.
Louis P. Brous, M. S., 706 N. Tenth street, Kansas City, Kan. Architect

Paul Halsted Fairchild, M. D., 160 William street, New York city. Manufacturing chemist and president Pulvola Chemical Company.
Abbott M. Green, Lookout, Cal. Surveyor and civil engineer.
James G. Harbord, M. S., Zamboanga, Mind., P. I. Captain United States army, Eleventh cavalry, assistant chief Philippine constabulary.
John U. Higinbotham, 205 La Salle street, Chicago, Ill. Assistant treasurer of National Biscuit Company.
Maria C. (Hopper) Getty, Downs, Kan. Housewife.
E. Ada (Little) MacEwan, 314 Elm street, Kalamazoo, Mich. Housewife.
Frank L. Parker, Hutchinson, Kan. Stock-raiser and fruit-grower.
Edward H. Perry, 231 W. Twelfth street, Oklahoma, Okla. Real-estate broker.
H. Augustus Platt. Died in 1903.
Ada H. (Quinby) Perry, 231 W. Twelfth street, Oklahoma, Okla. Housewife.
Ida H. (Quinby) Gardiner, 1514 Laguna street, Santa Barbara, Cal. Housewife.
Minnie Reed, M. S., Kamehameha school, Honolulu, H. I. Teaching science in manual-training school for boys.
David G. Robertson, 153 La Salle street, Chicago, Ill. Lawyer.
Edward O. Sisson, A. B., Ph. D., 308 W. Illinois street, Urbana, Ill. Assistant professor of education, University of Illinois.
John W. Van Deventer, 2022 Stout street, Denver, Colo. Writer.
George W. Waters, Dillon, Colo. Cattle ranchman.
William E. Whaley, 117 Maroon heights, Chicago, Ill. Instructor, University of Chicago.
F. Henrietta (Willard) Calvin, Manhattan, Kan. Professor of domestic science, Kansas State Agricultural College.
John L. Wise, Pocahontas, Ill. Dealer in hay and live stock.

1887.

Edgar A. Allen, U. S. Indian office, Washington, D. C. Special United States Indian agent.
Fred H. Avery. Died in 1896.
Claude M. Breese, M. S., Manhattan, Kan. County clerk.
John B. Brown, M. S., Morris, Minn. Superintendent Indian training-school.
Walter J. G. Burtis, R. F. D. No. 2, Fredonia, Kan. Farmer and stock-breeder.
Mark A. Carleton, M. S., 1633 Newton street, Washington, D. C. Cerealist in bureau of plant industry, United States Department of Agriculture.
Nellie E. (Cottrell) Stiles, R. F. D. No. 2, Fullerton, Cal. Housewife.
Bert R. Elliott, Dawson City, British Yukon Territory. Miner.
Frederick B. Elliott, 600 Osage street, Manhattan, Kan. Land, insurance and loan agent.
Clara M. Keys.
Fred. G. Kimball, Nome, Alaska. Miner.
Frederick A. Marlatt, Manhattan, Kan. Proprietor Blue Valley Manufacturing Company.
William J. McLaughlin, 463 W. Sixth South street, Salt Lake City, Utah. License clerk in city recorder's office and assistant clerk to city council.
Mary E. Moses. Died in 1906.
Charles A. Murphy, Nickerson, Kan. Editor and publisher of the *Argosy*.

Orlando G. Palmer, LL. M., Manila, P. I. Second lieutenant, Seventh United States cavalry.
Louis B. Parker. Died in 1889.
James E. Payne, M. S., 1800 Poyntz avenue, Manhattan, Kan. Expert in division of irrigation and drainage, United States Department of Agriculture.
Seward N. Peck, 1030 Railway Exchange building, Chicago, Ill. Chief draftsman for A. T. & S. F. railway system.
George N. Thompson, Belmond, Iowa. General mechanic.
Willis M. Wright, Jennings, La. Engineer.

1888.

Grant Arnold, Toledo, Wash. Merchant.
Bertha H. Bacheller, M. S., 26 South Sixteenth street, Kansas City, Kan. Director of domestic science, manual-training high school.
Clement G. Clarke, 601 Sixth street, S. E., Minneapolis, Minn. Pastor of First Congregational church.
Alexander C. Cobb, Wagoner, I. T. Contractor and farmer.
Mattie (Cobb) Clarke, 601 Sixth street, S. E., Minneapolis, Minn. Housewife.
Minnie H. Cowell, Steyning, Sussex, England. Trained nurse.
Lyman H. Dixon, 36 E. Twentieth street, New York city. Architect.
David G. Fairchild, M. S., Washington, D. C. Agricultural explorer, in charge of foreign explorations, United States Department of Agriculture.
Carl E. Friend, Soldier, Kan. Lumberman.
John R. Harrison, Federal building, Kansas City, Mo. Post-office inspector in charge.
Humphrey W. Jones, 1251 Lincoln street, Topeka, Kan. Principal of Branner school.
Nathan E. Lewis, 169 N. Jefferson street, Newcastle, Pa. Civil engineer, the National Tube Company.
Abby L. Marlatt, M. S., Technical High School, Providence, R. I. Teacher household economics.
William C. Moore, lock box 357, Parsons, Kan. Breeder of registered Jersey cattle.
Ernest F. Nichols, M. S., D. Sc., Columbia University, New York, N. Y. Professor of experimental physics.
Harry E. Robb, Eureka, Kan. Farmer and county surveyor.
Anna Snyder, Lebo, Kan. Telephone exchange.
Edwin H. Snyder, 2924 Gallup avenue, Denver, Colo. Editor and publisher.
Oliver L. Utter, A. B., A. M., S. T. B., 1902 Freeman avenue, Cincinnati, Ohio. Minister.
Aaron Walters. Died in 1892.
Lora L. (Waters) Beeler, M. S., Glen Ellyn, Ill. Housewife.
Daniel W. Working, R. F. D. No. 2, Capitol Hill station, Denver, Colo. County superintendent.

1889.

Emma A. Allen. Died in 1891.
Joseph W. Bayles, A. B., Onaga, Kan. Minister.
Walter R. Browning, Padonia, Kan. Grain dealer.
David E. Bundy, Julian, Neb. Minister.

Samuel S. Cobb, Wagoner, I. T. Postmaster and farmer.
Judson H. Criswell, Ames, Iowa. Graduate student, Iowa State College.
Mattie I. (Farley) Carr, Winthrop, Okanogan county, Washington. Teacher.
Clarence E. Freeman, M. S., E. E., 1015 E. Fifty-ninth street, Chicago, Ill. Director of department of electrical engineering, Armour Institute of Technology.
Hattie L. (Gale) Sanders, Mangonia, Fla. Housewife.
John S. Hazen, 107 E. Ross avenue, Tampa, Fla. Observer United States weather bureau.
Albert B. Kimball, Scandia, Kan. Newspaper publisher.
William Knabb, 301 N. Second street, Hiawatha, Kan. Cashier First National Bank.
Mary Cornelia Lee, Manhattan, Kan. City librarian.
Alonzo A. Mills, Anaheim, Cal. Fruit, nut and vegetable rancher.
Susan W. (Nichols) Eshelman, 926 Felix street, St. Joseph, Mo. Housewife.
Walter H. Olin, M. S., 829 Peterson street, Fort Collins, Colo. Professor of agronomy, State Agricultural College.
Eli M. Paddleford, A. B., S. T. B., Bonner Springs, Kan. Minister.
Maude F. (Sayers) DeLand, lock box 390, Pittsburg, Pa. Medical student.
Florine (Secrest) Linderman, Capay, Yolo county, California. Housewife.
Stanley Snyder, Oskaloosa, Kan. Farmer.
Charles W. Thompson, D. D. S., Holton, Kan. Dentist.
Jane Chapin Tunnell, [218½ N. Hickory street, Joliet, Ill. Instructor in English, township high school.
Ina M. (Turner) Bruce, 4136 Connecticut street, St. Louis, Mo. Housewife.
Robert U. Waldraven, Farmington, N. M. Minister.
Henry S. Willard, M. D., Manhattan, Kan. Physician and druggist.

1890.

Samuel I. Borton, 507 Fourth street, Lamar, Colo. Chief agriculturist, American Beet Sugar Company.
Frank A. Campbell, B. A., 525 Kansas avenue, Topeka, Kan. Sign-writer.
Arthur Fulton Cranston, LL. B., Central avenue, Parsons, Kan. Attorney at law.
John Davis, Nowata, I. T. Superintendent of city schools.
Grant W. Dewey, 3746 Lake avenue, Chicago, Ill. Street paving with the Illinois Implement and Ballast Company.
Charles J. Dobbs, 418 New York building, Seattle, Wash. Attorney at law.
Charles W. Earle, 1942–1948 Curtis street, Denver, Colo. Signs.
Schuyler C. Harner, Keats, Kan. Merchant.
John W. Ijams, Fort Belknap agency, Harlem, Mont. Farmer in United States Indian service.
Bertha S. (Kimball) Dickens, M. S., Manhattan, Kan. Housewife.
Eusebia (Knipe) Curtis, 841 Garfield avenue, Kansas City, Kan. Housewife.
Nellie P. (Little) Dobbs, 418 New York building, Seattle, Wash. Housewife.
Ellsworth Thomas Martin, LL. B., 1402—100 Washington street, Chicago, Ill. Lawyer.
Silas C. Mason, M. S., Berea, Ky. Professor of horticulture and forestry, Berea College.

Wilton L. Morse, Mancos, Colo. Principal of school.
Albert E. Newman, Texas City, Tex. Contractor and speculator.
Julia R. Pearce, bureau of soils, Washington, D. C. In charge of mechanical analysis laboratory, bureau of soils, United States Department of Agriculture.
Emil C. Pfuetze, Manhattan, Kan. Lumber dealer.
William H. Sanders, Mangonia, Fla. Plumber and builder.
Emma Secrest, A. M. Died in 1898.
Marie Barbara (Senn) Heath, M. S., 3427 Colby avenue, Everett, Wash. Housewife.
Ralph Snyder, Oskaloosa, Kan. Farmer and stockman.
George E. Stoker, A. B., Columbian building, Topeka, Kan. Lawyer.
Walter T. Swingle, M. S., 3315 Seventeenth street, N. W., Washington, D. C. Physiologist in charge plant life-history investigations, United States Department of Agriculture.
Gilbert J. VanZile. Died in 1899.
Harry Nichols Whitford, M. S., Ph. D., bureau of forestry, Manila, P. I. Forester and botanist.
Thomas E. Wimer. Died in 1890.

1891.

William Aaron Anderson, 4218 W. Prospect Place, Kansas City, Mo. Manager Pacific coast lumber and shingle department, Long-Bell Lumber Company.
William Sherman Arbuthnot, D. V. S., Lebanon, Kan. Druggist.
Herman Willard Avery, R. F. D. No. 2, Wakefield, Kan. Farmer.
Judd Noble Bridgman, M. S., A. B., 1224 Quindaro boulevard, Kansas City, Kan. Civil engineer.
Robert James Brock, Manhattan, Kan. Lawyer.
Francis Charles Burtis, M. S., Stillwater, Okla. Professor of animal and dairy husbandry, Oklahoma Agricultural and Mechanical College.
Charles Albert Campbell, 2030 Park Place, Denver, Colo. Clergyman.
Spencer Norman Chaffee, M. D., Talmage, Kan. Physician and surgeon.
Clay Ephraim Coburn, M. D., 908 Orville avenue, Kansas City, Kan. Physician.
Gertrude Coburn, 424 Topeka avenue, Topeka, Kan. Domestic science teacher.
Tina Louise (Coburn) Tomson, 111 North Sixteenth street, Cedar Rapids, Iowa. Housewife.
Rachel Callie (Conwell) Thoburn, 906 W. Twenty-first street, Oklahoma, Okla. Housewife.
Christine Mossman Corlett.
Mary Emmeline (Cottrell) Payne, M. S., 1800 Poyntz avenue, Manhattan, Kan. Housewife.
Phil Sheridan Creager. Died in 1906.
Kary Cadmus Davis, M. S., Ph. D., Menomonie, Wis. Principal Dunn County School of Agriculture.
Thomas Clarke Davis, Benedict, Kan. Farmer and oil producer.
Helen Pearl (Dow) Peck, 269 Marlborough road, Brooklyn, N. Y. Housewife.
Anna (Fairchild) White, Claremont, Cal. Housewife.

Harry Benson Gilstrap, Chandler, Okla. Postmaster and publisher *News.*
Almon Arthur Gist, 329 N. Philadelphia street, Shawnee, Okla. Ticket agent and chief clerk, A. T. & S. F. railway.
Amy Myrtle (Harrington) Deibler, 120 East Tenth street, Leadville, Colo. Housewife.
Delpha May (Hoop) Montgomery, Manhattan, Kan. Housewife.
Mayme Amelia (Houghton) Brock, Manhattan, Kan. Housewife.
Willis Wesley Hutto, Manhattan, Kan. Teacher in city schools.
George Victor Johnson, Cedarvale, Kan. Real-estate agent.
Frank Mullett Linscott, D. V. S., Farmington, Kan. Farmer.
Bessie Belle Little, M. S., Manhattan, Kan. Student, Woman's Medical College of Pennsylvania.
Albert Edward Martin, B. A., Harrington, Ariz. Telephone engineer.
Nellie Evangeline (McDonald) Thayer. Died in 1902.
David Collins McDowell, Elkton, Colo. Cashier Colorado Trading and Transfer Company.
Alfred Midgley, Minneapolis, Kan. Manager lumber-yard.
Madeleine Wade Milner, 125 Locust street, De Kalb, Ill. Librarian Northern Illinois State Normal School.
Paul Chambers Milner, Carbondale, Ill. Farmer.
Harry Elbridge Moore, Watonga, Okla. Creamery and ice plant.
John Otis Morse, Mound City, Kan. Lawyer and county attorney.
Hattie May Noyes, R. F. D. No. 1, Zeandale, Kan. Teacher.
Louise (Reed) Paddleford, Bonner Springs, Kan. Housewife.
Artemus Jackson Rudy, R. F. D. No. 1, Oleander, Cal. Fruit-grower.
Henry Vernon Rudy, R. F. D. No. 1, Fresno, Cal. Vineyardist.
Charlotte Jane (Short) Houser, M. S., [B. S., Dickinson College, Carlisle, Pa.,] Lewiston, Pa. Housewife.
Ben Skinner, M. D., Wetmore, Kan. Physician and surgeon.
Caroline Scott (Stingley) Van Blarcom. Died in 1899.
Lillian Alice (St. John) Williams, 841 Osage avenue, Kansas City, Kan. Housewife.
Ellis Cheney Thayer, 2477 Dunkeld Place, Denver, Colo. Teacher North Denver high school.
Sam L. Van Blarcom, M. D., 817 Garfield avenue, Kansas City, Kan. Railway postal clerk.
Frank Albert Waugh, M. S., Amherst, Mass. Professor of horticulture and landscape-gardening, Massachusetts Agricultural College.
Fannie Elizabeth (Waugh) Davis, M. S., Menomonie, Wis. Housewife.
Flora Emilie Wiest, Manhattan, Kan. Teacher in city schools; graduate student, Kansas State Agricultural College.
Bertha (Winchip) Spilman, 324 Fifth street, S. E., Washington, D. C. Housewife.
Alfred Orrin Wright, Siloam Springs, Ark. Insurance agent.
Effie Jeanetta Zimmerman, M. S., Moray, Kan. Instructor and lecturer.

1892.

Grace Maria Clark, M. S. Died in 1904.
George L. Clothier, M. S., M. F., Washington, D. C. Field assistant, bureau of forestry, United States Department of Agriculture.
Lillian Clyde Criner, McPherson, Kan. Editor and publisher of *Opinion.*

Harry A. Darnall, Lents, Ore. Principal of city schools.
William H. Edelblute, Rathdrum, Idaho. County surveyor and fruit-grower.
Elizabeth (Edwards) Hartley, Manhattan, Kan. Housewife.
John Frost, Blue Rapids, Kan. Farmer.
Effie (Gilstrap) Frazier, Chandler, Okla. Assistant postmaster.
Ava (Hamill) Tillotson, M. S., Latham, Kan. Druggist.
J N Harner. Died in 1897.
Loyall S. Harner, 1120 Hayes avenue, Colorado Springs, Colo. Employed by Portland Gold Mining and Milling Company.
Charles Pinckney Hartley, M. S., 3420 Center street, N. W., Washington, D. C. In charge of corn breeding, United States Department of Agriculture.
John William Abraham Hartley, Manhattan, Kan. Farmer.
James Laird McDowell, McCammon, Idaho. Market-gardener.
Robert A. McIlvaine, Warm Spring, Ore. Teacher in government Indian school.
Kate (Oldham) Sisson, 1619 Highland street, Columbus, Ohio. Housewife.
Daniel Henry Otis, M. S., Madison, Wis. Assistant professor of animal nutrition, assistant to the dean, college of agriculture, University of Wisconsin.
Ivan Bryan Parker, M. D., Hill City, Kan. Physician and surgeon; president Graham County State Bank.
Warner S. Pope. Died in 1899.
Burton Homer Pugh, drawer C, Topeka, Kan. B. H. Pugh Manufacturing Company.
Elias Wilber Reed, M. D., Holton, Kan. Physician and surgeon; county health officer.
Robert Stirling Reed, Simpson, Kan. Dealer in lumber and coal.
Arthur Daniel Rice, Hubbell, Neb. Minister.
Fred C. Sears, M. S., Truro, Nova Scotia. Professor of horticulture, Nova Scotia Agricultural College.
Birdie E. Secrest, D. S., Randolph, Kan. Clerk.
May Secrest, San Luis Obispo, Cal. Instructor in domestic science, California Polytechnic School.
Ruth Tipton (Stokes) Sears, M. S., Truro, Nova Scotia. Housewife.
Harry W. Stone, Y. M. C. A. building, Portland, Ore. General secretary Y. M. C. A.
Walter Percival Tucker, Aguascalientes, Aguas, Mexico. Chief clerk, American Smelting and Refining Company.
Mary Alice (Vail) Waugh, Amherst, Mass. Housewife.
Robert Lynn Wallis. Died in 1895.
Ora Rebecca (Wells) Traxler, Americus, Kan. Housewife.
Daniel F. Wickman, post-office box 107, Topeka, Kan. Nurseryman.
George Washington Wildin, Meadville, Pa. Mechanical superintendent, Erie Railway Company.
Charles Ernest Yeoman. Died in 1902.

1893.

Edmund Clarence Abbott, 235 Cerrillos road, Santa Fe, N. M. Attorney at law, district attorney, and assistant attorney-general of New Mexico.

Edwin McMaster Stanton Curtis, 1300 Pennsylvania avenue, Washington, D. C. Rate clerk, general passenger office, Southern railway.

Corinne Louise (Daily) Burtis, Stillwater, Okla. Housewife.

Laura Greeley Day, Menomonie, Wis. Director of domestic science department, Stout training schools.

Ione (Dewey) Sutherland, 3744 Lake avenue, Chicago, Ill. Stenographer, special assessment law department, city hall.

Albert Dickens, M. S., Manhattan, Kan. Professor of horticulture, Kansas State Agricultural College.

Mary Maud (Gardiner) Obrecht, M. S. 1016 Nevada street, Urbana, Ill. Housewife.

Susie (Hall) Linscott, Farmington, Kan. Housewife.

Mary Frances Burgoyne Harmon, 905 North Ninth street, Kansas City, Kan. Teacher of drawing in Kansas City, Kan., high school.

Ivy Frances Harner, M. S., Lafayette, Ind. Professor of household economics, Purdue University.

Margaretha Elise Horn, 320 Vinewood avenue, Detroit, Mich. Teacher of botany in Western high school.

Mac F. Hulett, D. O., 5½ West Broad, Columbus, Ohio. Osteopathic physician.

Marcia Ione Hulett, D. O., 1208 New England building, Cleveland, Ohio. Osteopathic physician.

Fred Hulse, Manhattan, Kan. Contractor and carpenter.

Charles Augustus Kimball, Manhattan, Kan. Editor.

Maud Ethel Knickerbocker, Lead, S. Dak. Teacher of history in city high school.

Thomas Eddy Lyon, LL. B., Sangamon Loan and Trust building, Springfield, Ill. Lawyer.

William Otis Lyon, 400 Eleventh street, N. E., Washington, D. C. Merchant.

McLeod Wilson McCrea, Winchester, Kan. Teacher.

Rose Edith McDowell, Elkton, Colo. At home.

George Lane Melton, Ph. B., University of Chicago, Chicago, Ill. Library work.

Eusebia DeLong (Mudge) Thompson, Marysville, Kan. Manager of the Thompson Hardware Company.

Nora (Newell) Hatch, R. F. D. No. 2, Manhattan, Kan. Housewife.

August Fred. Niemoller, Wakefield, Kan. Miller.

Susie Amanda Noyes. Died in 1894.

Henry Leamer Pellett, D. O., R. F. D. No. 4, Eudora, Kan. Breeder Red Polled cattle and Poland-China hogs.

Charles John Peterson, Topeka, Kan.

Carl Frederic Pfuetze, Manhattan, Kan. Railway postal clerk.

John Dewitt Riddell, M. D., Enterprise, Kan. Physician and surgeon.

John Albert Rokes, Holton, Kan. Lawyer.

Agnes (Romick) Edgar, Point Arena, Cal. Housewife.

Fred Raymond Smith, 431 Kearney street, Manhattan, Kan. Court reporter, twenty-first judicial district.

George Wildman Smith, M. D., 3109 Charlotte street, Kansas City, Mo. Registrar Hahnemann Medical College, and physician.
William Elmer Smith, 800 New York Life building, Kansas City, Mo. Lawyer.
John Eugene Thackrey, S. T. B., R. F. D. No. 6, Kansas City, Mo. Pastor Maywood Methodist Episcopal Church.
Joseph B. Thoburn, 906 West Twenty-first street, Oklahoma City, Okla. Editor and publisher of an agricultural newspaper.
Charles Henry Thompson, M. S., St. Louis, Mo. In charge of the succulent plants, Missouri Botanical Garden.
George K. Thompson. Died in 1905.
William James Yeoman, La Crosse, Kan. Farmer and stock-raiser.

1894.

Frank Weber Ames, room 316, Carnegie building, Pittsburg, Pa. Rail clerk, operating department, Carnegie Steel Company.
Clara Francelia Castle, M. S., Manhattan, Kan. At home.
George Luther Christensen, Houghton, Mich. Assistant professor in mechanical engineering, Michigan School of Mines.
John Cornelius Christensen, Manhattan, Kan. County treasurer.
Lorena Estella Clemons, Manhattan, Kan. Secretary Kansas State Agricultural College.
Martha Cottrell, Wabaunsee, Kan. At home.
Sarah Esther (Cottrell) Wright, Jennings, La. Housewife.
Alverta May Cress, 813 W. Tenth street, Topeka, Kan. Teacher.
Fannie Jane Cress, 502 S. Mary street, Escanaba, Mich. Teacher.
Ernest A. Donaven, M. D., Mount Hope, Kan. Physician.
Jephthah W. Evans, M. D., Council Grove, Kan. Physician.
Isabelle Russell (Frisbie) Criswell, Ames, Iowa. Housewife.
Eugene Leonard Frowe. Died in 1898.
Walter Harling. Died in 1903.
Lorena Marguerite (Helder) Morse, 1100 W. Fortieth street, Kansas City, Mo. Housewife.
Mark V. Hester, Huron, Ohio. Principal of Ceylon school.
Charles Ross Hutchings, 1013 W. Silver avenue, Argentine, Kan. Civil engineer.
Isaac Jones, jr., Etiwanda, Cal. Fruit-grower.
Stella Victoria (Kimball) Tucker, Aguascalientes, Aguas, Mexico. Housewife.
Mary Eliza (Lyman) Otis, M. S., Madison, Wis. Housewife.
William Henry Moore, M. S., Manhattan, Kan. Florist and horticulturist.
Sarah (Moore) Foster, 8027 Wallingford avenue, Seattle, Wash. Housewife.
James Francis Odle, R. F. D. No. 1, Ogden, Kan. Farmer.
Charles Randolph Pearson, Hoxie, Kan. County treasurer.
Horace Greeley Pope, LL. B., 3510 E. Tenth street, Kansas City, Mo. Attorney at law, member of firm Bird & Pope.
Minnie Louise Romick, 567 N. Gordon street, Pomona, Cal. Teacher.
Winnie Luella (Romick) Chandler, 3122 Cherry street, Kansas City, Mo. Housewife.

Victor Irvin Sandt, Wells, Minn. Instructor of science and manual training in high school.

John Alfred Scheel, 817 Neosho street, Emporia, Kan. Operator of sawmill.

Jacob Ulrich Secrest, Randolph, Kan. Farmer.

Charles Chrisfield Smith, 1800 Humboldt street, Manhattan, Kan. Editor and publisher *Western Poultry Review.*

Jennie Ruth (Smith) Strong, 330 Mulberry street, Ottawa, Kan. Housewife.

Wesley Ohio Staver, Del Rio, Tex. Chinese inspector, district of Texas, United States immigration service.

John Stingley, 1316 N. Emporia street, Wichita, Kan. Traveling agent for Moline Plow Company.

John Edwin Taylor. Died in 1896.

Delbert L. Timbers, Osborne, Kan. Merchant and stock-raiser.

Phebe Carey (Turner) Clothier, St. Marys, Kan. Housewife.

Samuel Robert Vincent, M. S., R. F. D. No. 2, Deer Creek, Okla. Farmer.

Lucy Helena Waters, A. M., Santa Clara, Cal. Teacher.

1895.

Edward Jones Abell, R. F. D. No. 2, Leonardville, Kan. Farmer and stock-raiser.

Carl D. Adams, R. F. D. No. 34, box 19, Hickman Mills, Mo. Manager of fruit farm.

Robert John Barnett, Manhattan, Kan. Assistant postmaster.

Burton Wesley Conrad, Sabetha, Kan. Veterinarian.

Florence Ruth Corbett, M. S., department public charities, foot of East Twenty-sixth street, New York city. Departmental dietitian.

Sid Henry Creager, 21 St. Clair building, Toledo, Ohio. Lumberman.

Elsie Emeline (Crump) Ames, 1620 State street, Boise City, Idaho. Housewife.

David Thomas Davies, Manhattan, Kan. Farmer.

Frank Andrew Dawley, Waldo, Kan. Farmer and stock-raiser.

Daisy Day, M. S., Onaga, Kan. At home.

Flora (Day) Barnett, M. S., Manhattan, Kan. Housewife.

George Adam Dean, Manhattan, Kan. Assistant in entomology and graduate student, Kansas State Agricultural College.

Lillie Christena (Dial) Falin, Cleburne, Kan. Housewife.

Lucy Ellis, 334 Ann avenue, Kansas City, Kan. Teacher.

Victor Emrick, 1034 E. Main street, Portland, Ore. Clerk, ticket auditor's office, Oregon Railway and Navigation Company.

George Forsyth, 201 S. Main street, Franklin, Ind. Traveling salesman, Dwiggins Wire Fence Company, Anderson, Ind.

Ernest Harrison Freeman, Armour Institute of Technology, Chicago, Ill. Assistant professor of electrical engineering.

Florence Eleanor (Fryhofer) Webster, The Columbia No. 23, Washington, D. C. Housewife.

George William Fryhofer, 4428 Forest Park boulevard, St. Louis, Mo. Broker.

Oscar Hugo Halstead, Manhattan, Kan. Assistant professor of mathematics and graduate student, Kansas State Agricultural College.

Hortensia (Harman) Patten, 207 N. Harvey avenue, Oak Park, Ill. Housewife.

John Bright Harman, 206 Monroe street, Colorado City, Colo. Fuel and feed merchant.

Clarence V. Holsinger, R. F. D. No. 5, Rosedale, Kan. Horticulturist and nurseryman.

Christian Andrick Johnson, Success, Kan. Farmer and stock-raiser.

John James Johnson.

Fred Ralph Jolly, Baxter Springs, Kan. Manager of J. C. L. Mining Company, Indian Territory.

William Irving Joss, 816 Columbia avenue, Philadelphia, Pa. Senior student in Hahnemann Medical College and Hospital.

Maud Estella (Kennett) Darnall, Lents, Ore. Teacher in city schools.

Myron Arthur Limbocker, Pomona, Kan. Cashier Citizens' State Bank.

Samuel Alexander McDowell, Elkton, Colo. Miner.

Laura Sara (McKeen) Smith, Russell, Kan. Housewife.

Theo. Wattles Morse, M. S., 1100 W. Fortieth street, Kansas City, Mo. Agricultural advertiser.

Oscar Albert Otten, Hebron, Neb. Agent C. R. I. & P. Rly. Co.

William Hackworth Painter. Died in 1901.

Charles Wesley Pape, M. S., Lincoln, Neb. Chemist and bacteriologist for Beatrice Creamery Company.

Ethel (Patten) Ames, 616 Hale street, Pittsburg, Pa. Housewife.

John Vernon Patten, 207 N. Harvey avenue, Oak Park, Ill. Secretary and treasurer of Charles Smith Company.

William H. Phipps, 2420 Benton boulevard, Kansas City, Mo. Manager Empire Cream Separator Company.

Alice Julia (Quintard) Peck. Died in 1899.

Frederick Ellsworth Rader, Rampart, Alaska. Alaskan Experiment Station.

Ralph Waldo Rader, 323 Sutton street, Fayetteville, Ark. Secretary of Fayetteville Fruit-growers' Association.

Ada Rice, Manhattan, Kan. Instructor in English, Kansas State Agricultural College.

Benjamin Franklin Simeon Royer, M. D., 1027 Sunset boulevard, Los Angeles, Cal. Physician and surgeon.

Charles Baxter Selby, Sterling, Okla. Attorney and United States court commissioner.

Mabel Gertrude (Selby) Laughlin, Nacazari, Sonora, Mexico. Housewife.

Ernest P. Smith, R. F. D. No. 1, New Windsor, Colo. Ranch foreman.

Frederick John Smith, Russell, Kan. Editor and county clerk.

Kitty Myrtle (Smith) Wheeler, Manhattan, Kan. Housewife.

Marietta (Smith) Reed, Holton, Kan. Housewife.

William Henry Steuart, Winchester, Kan. Farmer.

Cora Idella (Stump) Chaffee, Lasita, Kan. Housewife.

Dora (Thompson) Winter, 2303 Wabash avenue, Kansas City, Mo. Housewife.

Elven Creveling Trembly, Comiskey, Kan. Farmer and stock-raiser.

George Carpenter Wheeler, Manhattan, Kan. Assistant in animal husbandry, Kansas State Agricultural College.

Mary Elizabeth (Willard) Emrick, 1034 E. Main street, Portland, Ore. Housewife.

Olive Mabel (Wilson) Holsinger, R. F. D. No. 5, Rosedale, Kan. Housewife.

Ora Gertrude Yenawine, Anniston, Ala. Superintendent of domestic art, Barber's Memorial Seminary.

1896.

May Haines (Bowen) Schoonover, A. B., Beaver, Pa. Housewife.

Con Morrison Buck, M. S., 1006 Garfield avenue, Topeka, Kan. Civil engineer for A. T. & S. F. railway.

Margaret Isaphene (Carleton) Doane, Hyattsville, Md. Housewife.

William Annesley Cavenaugh, Manila, P. I. Captain, Sixth United States infantry.

William Arthur Coe, Rich, Idaho. Farmer.

Charlotte Mabel (Cotton) Smith, R. F. D. No. 1, New Windsor, Colo. Housewife.

Ernest Brown Coulson, Cherokee, Okla. Civil engineer, K. C. M. & O. Rly.

George Henry Dial, Irving, Kan. Farmer and stock-raiser.

Charles Francis Doane, M. S., Hyattsville, Md. Dairy expert, United States Department of Agriculture.

John Berthold Dorman, Pd. B., Boulevard and Jewett avenue, West New Brighton, N. Y. Teacher New York city schools.

Bradford Dougherty, 632–634 Minnesota avenue, Kansas City, Kan. Merchant.

Charles Silar Evans, M. D., Partridge, Kan. Physician.

Robert Kilby Farrar, Osborne, Kan. Superintendent of city schools.

George William Finley, Tonkawa, Okla. Acting president, Oklahoma University preparatory school.

Joanna Freeman. Died in 1897.

John Jacob Fryhofer, 1810 Byers avenue, Joplin, Mo. Bookkeeper and cashier for Freeman Foundry and Machine Company.

Elmer George Gibson, 411 E. Washington street, Arkansas City, Kan. Civil engineer, A. T. & S. F. railway.

George Clifton Hall, Manhattan, Kan. Farmer.

Alonzo Charles Havens, R. F. D. No. 4, Manhattan, Kan. Farmer.

Gertrude Julia (Havens) Norton. Died in 1905.

Lawrence Wilber Hayes, 228 Tyler street, Topeka, Kan. Foreman C. R. I. & P. local freight department.

John Warren Holland, box 319, 157 San Sebastian street, Manila, P. I. Broker.

Henry George Johnson, D. D. S., Lindsborg, Kan. Dentist.

Susan Effie (Johnson) Cooper, Blakeman, Kan. Housewife.

Marian Elizabeth Jones, M. S., Tallahassee, Fla. Teacher of domestic science and art, State College for Women.

Thomas Lormer Jones, Kansas City, Mo. Piano-tuner, J. W. Jenkins' Sons Music Company.

Edward Clarence Joss, M. D. C., 3320 N. Seventh street, Tacoma, Wash. Inspector in charge of local office, bureau of animal industry, United States Department of Agriculture.

Royal S. Kellogg, M. S., Washington, D. C. Forest assistant, forest service, United States Department of Agriculture.

Mark Kirkpatrick, 325 B street, S. W., Ardmore, I. T. Real estate.
Edith Lynette (Lantz) Simmons, 308 S. Fifth street, Victor, Colo. Housewife.
Sue (Long) Strauss, 1241 Tyler street, Topeka, Kan. Housewife.
Charles W. Lyman, Topeka, Kan. Traveling salesman, Seymour Packing Company.
Charles Dwin McCauley, Wilburn, Kan. Farmer.
Charles Sumner Marty, Sun, Barber county, Kansas. Stockman.
Elda Lenore (Keen) Moore, Manhattan, Kan. Housewife.
Arthur Huston Morgan, R. F. D. No. 3, Long Island, Kan. Farmer and stock-raiser.
Clara Verena Newell, Glenville, Neb. At home.
Ellen Elizabeth (Norton) Adams, Cheyenne Wells, Colo. Housewife.
John Bitting Smith Norton, M. S., College Park, Md. Professor of botany and vegetable pathology, Maryland Agricultural College, and state pathologist.
Hattie A. (Paddleford) McFadden, Riley, Kan. Housewife.
Mary Kerilla (Painter) Rogers, Ballaire, Okla. Housewife.
Elva Luthera (Palmer) Thackrey, R. F. D. No. 6, Kansas City, Mo. Housewife.
Inez Luella (Palmer) Barrows, Washington, Kan. Housewife.
Fannie (Parkinson) Moyer, R. F. D. No. 1, Melvern, Kan. Housewife.
Archie Carpenter Peck, Francis, I. T. Manager of cotton-gin.
Arthur Louis Peter, M. D., 31 Parkside avenue, San Francisco, Cal. Physician.
Charles Edwin Pincomb, Lenexa, Kan. Stockman.
Mary Josephine (Pincomb) Moats, box 36, Tampico, Mexico. Housewife.
John Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Edgar Arthur Powell. Died in 1904.
Lisle Willits Pursel, Cherokee, Kan. Car clerk, Frisco railroad.
Howard Newton Rhodes, 323 Colorado street, Manhattan, Kan. Chief clerk and cashier, Union Pacific depot.
Ambrose Elliott Ridenour, Manhattan, Kan. Foreman of foundry, Kansas State Agricultural College.
Mary Etta (Ridenour) Plowman, Jewell, Kan. Housewife.
Isaac Archie Robertson, Alma, Kan. Manager Knostman's clothing and shoe store.
Grace Anna Secrest. Died in 1902.
Carl Snyder, Lebo, Kan. Telephone exchange.
Max Gilbert Spalding, Eureka, Kan. Railway mail clerk.
Orville Ashford Stingley, D. V. S., 1912 East Thirty-sixth street, Kansas City, Mo. Assistant meat inspector, bureau of animal industry, United States Department of Agriculture.
Sadie (Stingley) Haggman, 549 South Grand avenue, Los Angeles, Cal. Housewife.
Gertrude Ella Stump, Manhattan, Kan. Assistant in domestic art department and graduate student, Kansas State Agricultural College.
Miriam Esther (Swingle) Joss, 3320 North Seventh street, Tacoma, Wash. Housewife.
William Elwood Thackrey, Fort Totten, N. Dak. Assistant superintendent, Fort Totten Indian school.

James Dunbar Trumbull, Riley, Kan. Merchant.
Frank Edwin Uhl, 607 Quindaro boulevard, Kansas City, Kan. Bookkeeper Meyer Sanitary Milk Company.
Edwin H. Webster, M. S., Washington, D. C. Chief dairy division, bureau of animal industry, United States Department of Agriculture.

1897.

Cora Atwell, 1125 West Third street, Topeka, Kan. At home.
Roger Williams Bishoff, Wyandotte, I. T. Disciplinarian Seneca Indian training-school.
Mary Frances (Carnell) Roe, Dorrance, Kan. Housewife.
William Burns Chase, Dodge City, Kan. Telephone manager, Dodge City Telephone Company.
Frank E. Cheadle, Cherokee, Okla. Farmer.
Robert Waitman Clothier, M. S., Cape Girardeau, Mo. Professor of chemistry and agriculture, Third District Normal School.
Maggie A. (Correll) Uhl, 607 Quindaro boulevard, Kansas City, Kan. Housewife.
Mabel (Crump) McCauley, 719 E. Forty-sixth street, Chicago, Ill. Housewife.
Fred Volley Dial, 1208 Kentucky street, Lawrence, Kan. Assistant in museum, Kansas State University.
Viola Grace Dille, 3519 Euclid avenue, Kansas City, Mo. Clerk Meriden Creamery Company.
Samuel Dolby. Died in 1903.
George Doll, Main and Third streets, Lewis, Kan. Merchant.
Anna Phillipina (Engel) Blackman, Manhattan, Kan. Housewife.
Emma Finley, 702 North Garey avenue, Pomona, Cal. Teacher city schools.
Martha (Fox) Smith, 923 Madison street, Topeka, Kan. Housewife.
Philip Fox, M. S., Williams Bay, Wis. Assistant in astrophysics at Yerkes Observatory. On leave.
Ned Merrill Green, Manila, P. I. First lieutenant, Fifteenth infantry, United States army.
Mary Eliza Haulenbeck. Died in 1901.
Lewellyn Gaines Hepworth, Burlingame, Kan. Traveling salesman.
Ina Emma Holroyd, Manhattan, Kan. Assistant in preparatory department, Kansas State Agricultural College.
Myrtle Hattie (Hood) Johnson, Success, Kan. Housewife.
Charles Henry Hoop, Manhattan, Kan. Clerk.
Winifred Anna (Houghton) Buck, 1006 Garfield avenue, Topeka, Kan. Housewife.
Bret Redmon Hull, 214 Poyntz avenue, Manhattan, Kan. Hardware merchant.
Clay Berkey Ingman, Barnes, Kan. Farmer.
Gertrude May (Lyman) Hall, Hyattsville, Md. Housewife.
Frederick Hugo Meyer, 610 North Fifth street, Kansas City, Kan. Creameryman.
Valentine Maelzer, May, Idaho. Farmer and teacher.
Sherman Bodwell Newell, R. F. D. No. 3, Manhattan, Kan. Ranchman.
Oliver Ezra Noble, Hobart, Okla. Surveyor and engineer.

Jesse Baker Norton, M. S., Washington, D. C. Assistant in physiology, bureau of plant industry, United States Department of Agriculture.
Mary Augusta (Norton) Polson, Winkler, Kan. Housewife.
Bertha Olivia Olson, 502 N. Sixth street, St. Joseph, Mo. Housework.
Hilda Sophia (Olson) Axelton, Garrison, Kan. Housewife.
Russell John Peck, Gotebo, Okla. Farmer.
William Oscar Peterson, Randolph, Kan. Farmer.
Eva Louise Philbrook, Wa Keeney, Kan. Teacher in city schools.
Rufus M. Philbrook, Palace hotel, Walla Walla, Wash. Painter.
William Joseph Rhoades, Olathe, Kan. Cashier in bank.
Carl E. Rice, Luneta police station, Manila, P. I. Patrolman.
Thomas Meade Robertson, D. D. S., Coffeyville, Kan. Dentist.
Homer Joseph Robison, Taal, Batanzas province, P. I. Hospital steward, United States army.
Edward Shellenbaum, Randolph, Kan. Postmaster.
Alice Myrtle Shofe, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Charles Wesley Shull, Wallace, Kan. Farmer and dairyman.
Alfred Caleb Smith, 556 Aloha street, Seattle, Wash. Real estate.
Phœbe Jane Smith, 514 W. Eighth street, Pueblo, Colo. Supervisor of domestic art and basketry in city schools.
Wilhelmina Henrietta Spohr, Manhattan, Kan. Teacher city schools.
Charles Harrison Stokely, 3102 Cherry street, Kansas City, Mo. Solicitor for Missouri & Kansas Telephone Company.
John E. Trembly, Comiskey, Kan. Farmer and stock-raiser.
Harriet Agnes (Vandivert) Remick, Manhattan, Kan. Housewife.
Olive Voiles, 854 First avenue, E., Cedar Rapids, Iowa. Trained nurse.
John Minton Westgate, M. S., Washington, D. C. Assistant agrostologist, United States Department of Agriculture.
Mark Wheeler, Manila, P. I. Captain, Sixteenth United States infantry.
Clare Annie (Wilson) Dutton, R. F. D. No. 2, Alta Vista, Kan. Housewife.

1898.

Emory Sherwood Adams, Vancouver barracks, Vancouver, Wash. Second lieutenant, Fourteenth United States infantry.
Joshua William Adams, Cheyenne Wells, Colo. Ranchman.
Samuel John Adams, Cheyenne Wells, Colo. Real-estate agent.
Thomas Walter Allison, Florence, Kan. Fruit-grower and farmer.
William Anderson, Manhattan, Kan. Assistant in physics and graduate student, Kansas State Agricultural College.
Jessie Geneva (Bayless) Staver, R. F. D. No. 1, Lenexa, Kan. Housewife.
Hope Brady, Manhattan, Kan. Teacher city schools, Liberal, Kan.
Robert Henry Brown, Manhattan, Kan. Assistant professor of music, Kansas State Agricultural College.
Earl Carver Butterfield, Washington, D. C. Scientific assistant in horticulture, United States Department of Agriculture.
John Alfred Conover, Sabetha, Kan. Farmer.
Minnie Laura Copeland, 1933 Indiana avenue, Chicago, Ill. Graduate nurse.
Lucy Maria (Cottrell) Pottorf, Riley, Kan. Housewife.
Anna Magdalena (Dahl) Davis, R. F. D. No. 1, Montrose, Kan. Housewife.
ng a Josephine Dahl, R. F. D. No. 1, Montrose, Kan. Teacher.

Cassie Belle Dille, 3519 Euclid avenue, Kansas City, Mo. Stenographer in office of Meriden Creamery Company.
Emma Phillipine Doll, Larned, Kan. Student at Kansas State Normal School.
Cora Elizabeth (Ewalt) Brown, Manhattan, Kan. Housewife.
Guy Francis Farley, Melvern, Kan. Actor, with J. G. Stutty Company.
Mary (Finley) Ridenour, Manhattan, Kan. Housewife.
Arthur Lorenzo Frowe. Died in 1904.
William Logan Hall, M. S., Hyattsville, Md. Chief, office of forest products, forest service, United States Department of Agriculture.
Anna Viola (Hanson) Higinbotham, Manhattan, Kan. Housewife.
Walter Eugene Hardy, 211 E. Eleventh street, Kansas City, Mo. Retail confectionery merchant.
James Madison Harvey, R. F. D. No. 1, Ogden, Kan. Farmer
Emmett Vivian Hoffman, Enterprise, Kan. Manager C. Hoffman & Son, secretary Hoffman Elevator Company. and president Kansas Concrete Stone Company.
Guy Dudley Hulett, D. O. Died in 1904.
Bertha Emma Ingman, Barnes, Kan. At home.
Ary Cordelia (Johnson) Butterfield, 437 Hardesty avenue, Kansas City, Mo. Housewife.
Charles Percy King, Baxter Springs, Kan. Lumberman.
Bessie May (Lock) Noble, Hobart, Okla. Housewife.
Olive Long. Died in 1902.
William Andrew McCullough, M. D., Delavan, Kan. Physician and surgeon.
Inez Isadore (Manchester) Allison, Florence, Kan. Housewife.
Florence Adelia Martin. Died in 1901.
Henry Alba Martin, Admire, Kan. Creameryman and farmer.
Alice Maude Melton, Manhattan, Kan. Clerk in director's office, Kansas Experiment Station.
George Gerkein Menke, Garden City, Kan. Stock-breeder.
Mary Frances Minis, 501 Moro street, Manhattan, Kan. Clerk.
May (Moore) Dakin, 1147 North Emporia avenue, Wichita, Kan. Housewife.
Harriet Grace (Nichols) Donohoo, Tucumcari, N. M. Housewife.
Schuyler Nichols, M. D., 2 North Broadway, Herington, Kan. Physician and surgeon.
Lucy Junie Parks, Manhattan, Kan. Teacher.
Ernest Byron Patten, Carthage, S. Dak. Grain-buyer.
C. Jeanette (Perry) Thomas, 1253 South Thirteenth street, Harrisburg, Pa. Housewife.
Emilie Matilda (Pfuetze) Samuel, Manhattan, Kan. Housewife.
John Martin Pierce, Geyserville, Cal. Fruit-grower.
Raymond Haines Pond, M. S., Ph. D., 87 Lake street, Chicago, Ill. Professor of botany and pharmacognosy and director of the microscopical laboratories, Northwestern University.
William Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Willis Thomas Pope, Honolulu, H. I. Vice-principal of the Territorial Normal and Training School of Hawaii.
Nora May (Reed) Pierce, Geyserville, Cal. Housewife.
Gertrude Elizabeth Rhodes, Manhattan, Kan. Clerk.
Henry William Rogler, Bazaar, Kan. Farmer and stockman
Ferdinand John Rumold, Dillon, Kan. Farmer and stockman

Martin Wilbur Sanderson, Marysville, Kan. City engineer and county surveyor.
Olive Maria (Sheldon) Parker, 319 Prospect avenue, El Paso, Tex. Housewife.
Edwin Lee Smith, Manhattan, Kan. Rural letter-carrier.
Oliver Russell Smith, C. E., Socorro, N. M. Professor of civil engineering, New Mexico School of Mines.
Bertha (Spohr) Smith, Garnett, Kan. Housewife.
Andrew B. Symns, R. F. D. No. 5, Troy, Kan. Farmer and stock-raiser.
Cora Thackrey, Valentine, Neb. Teacher.
Harriet Emerson (Thackrey) Reece, Simeon, Neb. Housewife.
Henry Marsden Thomas, 1253 South Thirteenth street, Harrisburg, Pa. General collection agent for J. I. Case Threshing-machine Company.
Elsie Lucile Waters, Manhattan, Kan. Teacher in Junction City schools and graduate student, Kansas State Agricultural College.
Fred Dorsey Waters, Neame, La. Lumber grader.
Abner Davis Whipple, 531 West Sixty-first Place, Chicago, Ill. Traveling salesman for Chicago Linoleum Company.
Adelaide Frances (Wilder) Sawdon, M. S., 961 East State street, Ithaca, N. Y. Housewife.
Josephine Hannah (Wilder) McCullough, M. S., Delavan, Kan. Housewife.
Frank Yeoman, LL. B., 57 Water-works building, Kansas City, Mo. Attorney at law.
Frederick Zimmerman, Moray, Kan. Farmer.

1899.

Bonnie Frances Adams, Cheyenne Wells, Colo. Teacher in city schools.
Morrison Carpenter Adams, Marvin, Kan. Stock farmer.
Melvia Fairetta Avery, Wakefield, Kan. Senior student in medical department of Kansas University, Kansas City, Kan.
Albert Edwin Blair, 114½ Pennsylvania avenue, Independence, Kan. Architectural draftsman.
James Courtney Bolton, Zeandale, Kan. Farmer.
Joseph Abbott Butterfield, 437 Hardesty avenue, Kansas City, Mo. Railway postal clerk.
Willitt Ramson Correll, R. F. D. No. 4, box 32, Carbondale, Kan. Farmer.
Ernest Lerned Cottrell, Wabaunsee, Kan. Farmer.
Alfred Burton Dille, jr., Alamogordo, N. M. Farmer.
Francis Joseph Habiger, Bushton, Kan. Farmer and stock-raiser.
John George Haney, Oswego, Kan. Manager of the Deming ranch.
John Andrew Harvey, R. F. D. No. 1, Ogden, Kan. Farmer.
Grace Edna (Hill) Champlin, Phillipsburg, Kan. Housewife.
Hiram Adsit Holzer, 206 West Park avenue, Pittsburg, Kan. Superintendent United Iron-works Company.
Charles Clifford Jackson, R. F. D. No. 1, Westmoreland, Kan. Farmer.
Fred Emanuel Johnson, D. V. S., Alliance, Neb. United States inspector, federal quarantine service, bureau of animal industry.
Harry Wallace Johnston, Brookeland, Tex. Agent G. C. & S. F. railway.
Lot Parker Keeler, 819 East Seventh street, Portland, Ore. Carpenter.
John Martin Kessler, Twenty-fifth and Kansas avenue, Topeka, Kan. Florist.

Albert Thomas Kinsley, M. S., D. V. S., 1336 East Fifteenth street, Kansas City, Mo. Director microscopic laboratory, Kansas City Veterinary College; veterinary practitioner.
Frank Elmer LaShelle, 1217 Third street, Clay Center Kan. Job printer.
Christian Dagobert Lechner, Russell, Kan. Contractor and builder.
Ross Long, Denver, Colo. Lawyer.
Louisa Mary (Maelzer) Haise, Russell, Kan. Housewife.
Kate Anna Manly, Manhattan, Kan. Teacher in city schools.
Claud Masters, Sulphur, I. T. Abstracter and insurance agent.
Robert Bertice Mitchell. Died in 1904.
Jennie June (Needham) Carter, R. F. D. No. 1, Rantoul, Kan. Housewife.
Roscoe Townley Nichols, M. D., Liberal, Kan, Physician and surgeon.
Fanny Gertrude Noyes, Lakeside Hospital, Cleveland, Ohio. Pupil nurse, Lakeside Hospital training-school.
Harry Delphos Orr, M. D., St. Luke's hospital, Chicago, Ill. Physician on resident staff.
George Washington Owens, box 30, Institute Station, Ala. Instructor of animal husbandry in Tuskegee Institute.
Carrie Vashti (Painter) Desmarias, Lakeland, Kan. Housewife.
Ella Emerson Peck, Big Valley, Tex. Teacher.
Anna C. Pfuetze, Olathe, Kan. Teacher of household economy, school for the deaf.
Andrew Pottorf, R. F. D. No. 1, Riley, Kan. Farmer.
Mary Bly (Pritner) Lockwood, Allegheny Place, Meadville, Pa. Housewife.
Otto Independence Purdy, 901 North Twenty-fourth street, South Omaha, Neb. Field-man Daily Drovers-Journal Stockman.
Delmer William Randall, Washington, D. C. Assistant engineer, office of public roads, Department of Agriculture.
William Harry Roberts, Vernon, Kan. Teacher and farmer.
Frank Sessions Shelton, Juneau, Alaska. Prospector.
Louisa Mary Spohr, Parkview hospital, Manhattan, Kan. Trained nurse.
Annie Louisa (Streeter) Haney, Oswego, Kan. Housewife.
Nellie (Towers) Brooks, 301 West Thirteenth street, Kansas City, Mo. Housewife.
Otho Sprague True, R. F. D. No. 2, Paxico, Kan. Farmer.
James Otis Tulloss, Sedan, Kan. Merchant, and Regent Kansas State Agricultural College.
William Guy Tulloss, Rantoul, Kan. Cashier State Bank.
George Franklin Wagner, Enterprise, Kan. Farmer and stock-raiser.
Mary Lana (Waugh) Smith, 556 Aloha street, Seattle, Wash. Housewife.
Charles Bernard White, Canton, Kan. Laborer.
Nannie Elizabeth Williams, R. F. D. No. 2, Gardner, Kan. Stenographer.
Alexander George Wilson. Died in 1902.
Frederick Otto Woestemeyer, B. D., Bethel, Kan. Minister.

1900.

Elizabeth Jane Agnew, 900 St. Francis street, Wichita, Kan. Instructor in domestic science and domestic art in city schools.
Elizabeth Edna (Asbury) Derr, 1009 Normal avenue, Mt. Pleasant, Mich. Housewife.
Effie Elizabeth (Bailey) Foltz, R. F. D. No. 3, Manhattan, Kan. Housewife.

Alvah I. Bain, Oakley, Kan. Real estate agent.

Harry M. Bainer, M. S. A., Fort Collins, Colo. Professor of agricultural engineering, Colorado Agricultural College.

Charlotte Almira (Berkey) Smith, El Dorado, Kan. Housewife.

John Harold Blachly, Manhattan, Kan. Student Western Dental College, Kansas City, Mo.

Minerva (Blachly) Dean, Manhattan, Kan. Housewife.

Zina Leigh Bliss, A. B., Sinnissippi farm, Oregon, Ill. Forester on estate of F. O. Lowdon.

Fred Winchester Bobbitt, 1135 K street, Perry, Okla. Office engineer of the Trinity & Brazos Valley Railway Company.

Lillie Grace Bolton, R. F. D. No. 1, Wamego, Kan. Teacher.

Prudence Dell Broquet, Norton, Kan. At home.

Nellie (Burtner) Sargent. Died in 1901.

Clarence Asa Chandler, 3122 Cherry street, Kansas City, Mo. Head gardener, board of park commissioners, Kansas City, Mo.

Frederick Waldemar Christensen, box 325, State College, Pa. Assistant in animal nutrition, Pennsylvania Agricultural Experiment Station.

Ernest Mansel Cook, Oakley, Kan. Farmer.

Charles McClain Correll, 1012 Osage street, Manhattan, Kan. Teacher in city schools.

Jennie Maude Currie, 904 Monroe street, Topeka, Kan. Stenographer, A. T. & S. F. general offices.

Harry Leroy Dern, Montezuma, Kan. Teacher and farmer.

Homer Derr, 1009 Normal avenue, Mt. Pleasant, Mich. Instructor in physics, Central State Normal School.

Mary Alberta (Dille) Hulett, Edgerton, Kan. Housewife.

Robert Edward Eastman, Manhattan, Man. Assistant horticulturist, Kansas State Agricultural College.

Jennie (Edelblute) Smethurst, Manhattan, Kan. Housewife.

Eugene Emrick, Webb City, Mo. Deputy for Knights and Ladies of Security, Topeka, Kan.

Josephine Finley, Manhattan, Kan. At home.

Harry Verne Forest, Lyons, Kan. Manager electric-light plant.

George Ogden Greene, M. S., Lucas Kan. Secretary Russell County Cooperative Association.

Herman C. Haffner, Grand Junction, Colo. Assistant superintendent, Teller Institute.

Gustaf William Hanson, lock box P, Marquette, Kan. Proprietor and superintendent of Hanson Novelty Manufacturing Company.

James William Harner, Manhattan, Kan. Special student, Kansas State Agricultural College.

Daisy Gladys Hoffman, Enterprise, Kan. Kindergarten teacher.

Walter Fisk Lawry, 4145 Indiana avenue, Chicago, Ill. Draftsman with the Link Belt Machinery Company.

Amanda Culp (McCarty) Coats, Liberal, Mo. Housewife.

N. Ollie (McCurry) Walker, Plymouth, Kan. Housewife.

George G. McDowell, Elkton, Colo. Miner.

Roland McKee, Chico, Cal. Scientific assistant in horticulture, United States Department of Agriculture; graduate student, Kansas State Agricultural College.

Nettie (McLaren) Scott, box 75, Altoona, Kan. Housewife.
Charles Dudley Montgomery. Died in 1902.
Fred Byers Morlan, R. F. D. No. 1, Courtland, Kan. Farmer.
Andrew Edward Oman, 360 Prospect street, New Haven, Conn. Student Yale Forest School.
Kate Paddock, Manhattan, Kan. At home.
Joseph Lloyd Pancake, Tully, Kan. Stock-raiser and farmer.
Albert William Parrack. Died in 1901.
Edith (Perkins) Myers, South Pasadena, Cal. Housewife.
Elenore Perkins, box 238, South Pasadena, Cal. At home.
Paul du Chaillu Piersol, 214 W. Oklahoma avenue, Guthrie, Okla. Manufacturing confectioner.
Luther Eugene Potter, Myton, Utah. Farmer.
Clara Spilman, Camden Point, Mo. Instructer in domestic science at the Christian Female Orphans' School.
Mabel Stewart, Neosho, Mo. Teacher.
Stella Stewart, 1051 West College avenue, Jacksonville, Ill. Primary teacher.
Fayette Charles Sweet, Sophia, Okla. Stockman.
Cora Edith Swingle, Rochester, Mich. At home.
Deane Bret Swingle, M. S., 1615 Florida avenue, Washington, D. C. Assistant in pathology, United States Department of Agriculture.
Barton Thompson, Ames, Iowa. Student University of Nebraska.
Laura Helen (Trumbull) Correll, 1012 Osage Street, Manhattan, Kan. Housewife.
Jessie May Wagner, Enterprise, Kan. At home.
Luther Watts Waldraven, R. F. D. No. 1, Winkler, Kan. Farmer and stock-raiser.
Kate Elizabeth Zimmerman, Fruita, Colo. Teacher in the Fruita Union high school.

1901.

Del Mar Akin, 830 Moro street, Manhattan, Kan. Student University Medical College, Kansas City, Mo.; graduate student, Kansas State Agricultural College.
Cyrus Norton Allison, D. D. S., Box 954, Falls City, Neb. Dentist.
Loua Adelle Blachly, Manhattan, Kan. At home.
Harry S. Bourne, Delphos, Kan. Carpenter and machinist.
Charles J. Burson, Herrick, S. Dak. Farmer.
Howard Frank Butterfield, 604 W. Second street, Pittsburg, Kan. Instructor in manual training in high school.
Edwin Charles Cook. Died in 1903.
Ina Foote Cowles, 357 Lenox avenue, New York city. Student in domestic art at teachers' college, Columbia University.
Trena Dahl, R. F. D. No. 1, Montrose, Kan. Teacher.
Fannie Rachel Ellen Dale, Manhattan, Kan. Stenographer in mechanical department, Kansas State Agricultural College.
Herman August Dieball, Albuquerque, N. M. Proprietor of Commercial hotel.
Edgar Willis Doane, Monterey, Cal. Civil engineer with Monterey county water-works.

Otto H. Elling, Hays, Kan. Foreman Fort Hays Branch Experiment Station.
Valentine Meacham Emmert, R. F. D. No. 1, Blue Rapids, Kan. Farmer.
Rainey Faris, Upper Alton, Ill. Draftsman for Western Cartridge Company.
Harry Haines Fay, R. F. D. No. 2, Wilsey, Kan. Farmer and stock-raiser.
Fred Fockele, Waverly, Kan. Banker.
Louise Gerteis, Derby, Kan. At home.
Maud Hart, Coin, Iowa. At home.
Fred Willis Haselwood.
Minnie M. Howell, 618 Yuma street, Manhattan, Kan. Teacher in city schools.
Edith (Huntress) Rhoades, Olathe, Kan. Housewife.
Louis Berten Jolley, M. D., Gurnee, Ill. Physician and surgeon.
Helen (Knostman) Pratt, Manhattan, Kan. Housewife.
Daniel Ladd, 5604 Drexel avenue, Chicago, Ill. Student University of Chicago.
Erma Elizabeth Locke, Mountain Grove, Mo. Teacher.
Harvey McCaslin, Atwood, Kan. Lawyer.
Madge Ruth (McKeen) Axelton, Keats, Kan. Housewife.
John A. McKenzie, R. F. D. No. 1, Solomon, Kan. Farmer and stock-raiser.
George Martinson, Manhattan, Nev. Attorney at law.
Walter E. Mathewson, M. S., Manhattan, Kan. Assistant in chemistry, Kansas State Agricultural College.
Emma Maude (Miller) Cook, Oakley, Kan. Teacher.
Margaret Jane Minis, Manhattan, Kan. Librarian Kansas State Agricultural College.
Clarence William Morgan, Phillipsburg, Kan. Farmer.
Eugene Lawrence Morgan, Phillipsburg, Kan. Student at Kansas Medical College, Topeka.
Ruth Atwill Mudge, 909 Fourth avenue, Louisville, Ky. Teacher of physiology and botany, girls' high school.
Jessie May Mustard, Manchester, Kan. Assistant principal in high school, Solomon, Kan.
Martha Nitcher, Ames, Iowa. Clerk.
John H. Oesterhaus, care of Seventh cavalry, Manila, P. I. Veterinarian.
Carrie Belle Oneel, 191 Lincoln avenue, San Jose, Cal. Bookkeeper and stenographer.
Helene Maude Pincomb, 618 Main street, Stevens Point, Wis. Directress of domestic science at State Normal School.
Bryant Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Leroy Rigg, Kirwin, Kan. Farmer and stock-raiser.
William Stephen Sargent, Ft. Washakie, Wyo. Field assistant, United States Geological Survey.
Maude (Sauble) Rogler, Bazaar, Kan. Housewife.
Charles A. Scott, Halsey, Neb. Forest assistant, forest service, United States Department of Agriculture.
Anna Louisa (Smith) Kinsley, 1336 E. Fifteenth street, Kansas City, Mo. Housewife.
Adelaide Strite, Manhattan, Kan. Teacher in city schools.
Anna Odette Summers, Waterville, Kan. At home.

Lucy Sweet, 64 Walnut avenue, Santa Cruz, Cal. Clerk.
Perrin K. Symns, R. F. D. No. 5, Troy, Kan. Farmer and stock-raiser.
Estella Mae Tharp, R. F. D. No. 8, Winfield, Kan. Teacher.
Helen Castle True, 1409 Fillmore street, Topeka, Kan. At home.
Harry Castle Turner, 1609 Poyntz avenue, Manhattan, Kan. Teacher and graduate student, Kansas State Agricultural College.
Florence Helen (Vail) Butterfield, 604 W. Second street, Pittsburg, Kan. Housewife.
Mary Caroline (Wagner) Gresham, Black Rock, N. M. Housewife.
Eleanor Mary White, American Falls, Idaho. Teacher.
Katharena Winter, Manhattan, Kan. Clerk.
Lucie Joan (Wyatt) Wilson, Westmoreland, Kan. Housewife.
Henry Theador York. Died in 1902.

1902.

Mamie (Alexander) Boyd, Phillipsburg, Kan. Housewife.
Edgar McCall Amos, Manhattan, Kan. Printer and publisher.
Henry Albert Avery, Wakefield, Kan. Hardware, furniture and implement dealer.
Etta Marie Barnard, Cleburne, Kan. Teacher.
Mary Olive Barr, Manhattan, Kan. At home.
George Ford Bean, 728 Poyntz avenue, Manhattan, Kan. Yardman Pfuetze Brothers Lumber Company.
Charles Dallas Blachly, Leonardville, Kan. Student at Kansas City Medical College.
Bessie Sarah Bourne, Delphos, Kan. Teacher.
Martha Amelia Briggs, R. F. D. No. 6, Manhattan, Kan. At home.
Emma M. Cain, Clay Center, Kan. Teacher at Ogden.
Floyd Adelbert Champlin, Phillipsburg, Kan. Stock-farmer.
Elijah Ellis Chase, R. F. D. No. 1, Merriam, Kan. Farmer.
Charles Howard Clark, Kinsley, Kan. Farmer.
Maude Mildred Coe, Manhattan, Kan. Assistant in domestic art, Kansas State Agricultural College.
Murray Stanley Cole, Yermo, Cal. Car inspector.
Robert Curtise Cole, Platte, S. Dak. Stockman.
Lottie Irene Crawford, 229 Smith street, Fort Collins, Colo. Assistant in domestic economy, Colorado Agricultural College.
Sarah Emily Davies, Bala, Kan. Teacher.
Della (Drollinger) Glunt, Garrison, Kan. Housewife.
Charles Eastman, D. V. S., 1556 Mill street, San Luis Obispo, Cal. Veterinarian.
Leslie Arthur Fitz, 1633 Newton street, N. W., Washington, D. C. Scientific assistant in grain investigations office, bureau of plant industry, United States Department of Agriculture.
Glick Fockele, Le Roy, Kan. Newspaper reporter and insurance agent.
Clark A. Gingery, R. F. D. No. 2, Caldwell, Kan. Farmer.
William Lee Harvey, 1324 Tyler street, Topeka, Kan. Stenographer, and student at Washburn College school of law.
Benjamin F. Haynes, jr., R. F. D. No. 1, Middleton, Idaho. Ranchman.
William Rutherford Hildreth, R. F. D. No. 2, Altamont, Kan. Farmer.
Christine Delphine Hofer, 94 Main avenue, Ocean Grove, N. J. At home.

Henrietta Mattie Hofer, 94 Main avenue, Ocean Grove, N. J. Vocalist.
Edouard Wilfred House, 807 B. Tracy avenue, Kansas City, Mo. Pattern-maker and millwright, Proctor & Gamble Soap Company.
Letta Birdilla (Keen) Edmonson, Joplin, Mo. Housewife.
Edgar Willis Kimball, 728 Poyntz avenue, Manhattan, Kan. Publisher of *Republic.*
Arthur Henry Leidigh, Channing, Tex. In general charge of experimental farm, scientific assistant, grain investigations, bureau of plant industry, United States Department of Agriculture.
George M. Logan, 446 West Congress street, Chicago, Ill. Student Rush Medical College.
Otto Meade McAninch, American Falls, Idaho. Farmer.
Amelia Augusta Maelzer, May, Idaho. Teacher.
Margaret Myrtle Mather, Lincoln, Ill. Teacher of home economics at Lincoln College; Chautauqua and farmers' institute lecturer.
Roger Bonner Mullen, Lake Bay, Wash. Fruit-grower.
Grover Poole, R. F. D. No. 2, Manhattan, Kan. Farmer.
Abbie Elida Putnam, Edmond, Kan. Principal of school.
Henry Paul Richards, 417 Madison street, Topeka, Kan. Mechanic with A. T. & S. F. Rly. Co.
Eva Talitha Rigg, East Fifteenth and Denver avenue, Kansas City, Mo. Teacher of domestic science, and student in Kansas City National Training School for Deaconesses and Missionaries.
John Francis Ross, Genoa, Neb. Teacher of agriculture in Genoa Indian Industrial School.
Pontus Henry Ross, Kenai, Alaska. Superintendent of United States Experiment Station.
Fred Lewis Schneider, D. V. S., 201 South First street, Albuquerque, N. M. Veterinarian.
Edmund Ray Secrest, Washington, D. C. Assistant forest expert, bureau of forestry, United States Department of Agriculture.
Glen Reid Shepherd, 623 Oakland avenue, Kansas City, Kan. Teller Wyandotte State Bank.
Charles Franklin Smith, El Dorado, Kan. Teacher of science and mathematics in high school.
Walter Hayward Spencer, Yates Center, Kan. Farmer and stock-raiser.
John Thomas Stafford, Maher, Colo. Ranchman.
Myrtie Lucy Toothaker, R. F. D. No. 3, Blaine, Kan. At home.
Fred Walters, Trinidad, Colo. Civil engineer.
Lilly Maud Zimmerman, Moray, Kan. Teacher and student.

1903.

Richard Franklin Bourne, Delphos, Kan. Veterinarian.
Howard McCune Chandler, 194 Hotel street, Honolulu, H. I. Mechanical draftsman, Honolulu Iron-works Company.
DeVerne E. Corbin, Oxford, Kan. Farmer.
James A. Correll, 34 Dartmouth street, Boston, Mass. Student in Massachusetts Institute of Technology.
Amos Luther Cottrell, Elgin, Ill. Manufacturer of alfalfa meal, and salesman.

Claude Carroll Cunningham, Forest Home, Ithaca, N. Y. Graduate student, Cornell University.
Orrin Pomeroy Drake, Frankfort, Kan. Farmer.
Louis Sidney Edwards, Oswego, Kan. Foreman on Deming ranch.
Robert Alexander Esdon, 221 W. Third street, Xenia, Ohio. Theological student.
Corinne Failyer, Manhattan, Kan. At home.
Maude Irene (Failyer) Kinzer, Manhattan, Kan. Housewife.
Estella May Fearon, 48 Rutland square, Boston, Mass. Student Boston Normal School of Gymnastics.
George T. Fielding, No. 7 North College street, Schenectady, N. Y. Electrical engineer, General Electric Company.
James William Fields, McPherson, Kan. Dentist.
Arthur B. Gahan, care of Maryland Agricultural College, College Park, Md. Assistant state entomologist.
Fred Norton Gillis, Wishek, N. Dak. Cashier First State Bank, and secretary-treasurer and manager, Wishek Creamery Association.
Clara S. Goodrich, 4802 Prairie avenue, Chicago, Ill. Student University of Chicago.
Edith Anna Goodwin, Detroit, Kan. Teacher of science at Dickinson county high school, Chapman.
Ellsworth Paul Goodyear, R. F. D. No. 1, Cedar Point, Kan. Farmer.
Alanson L. Hallsted, Havana, Kan. Farmer.
Esther E. (Hanson) Ross, Kenai, Alaska. Housewife.
Edward Howard Hodgson, Little River, Kan. Farmer and stock-raiser.
Pearl Holderman, R. F. D. No. 4, Chetopa, Kan. At home.
Hartley Bowen Holroyd, Washington, D. C. Forest assistant in forest service, United States Department of Agriculture.
Sarah C. Hougham, Manhattan, Kan. Clerk in botanical department, Kansas State Agricultural College.
Axel H. Johnson, Mill Creek No. 3, Craftonville, Cal. Switchboard operator, Edison Electric Company.
Jesse McCullah Jones, R. F. D. No. 4, Montgomery, Ala. Planter and stock-raiser.
Hernon Curtis Kyle, Wooster, Ohio. Assistant in agronomy, Ohio Experiment Station.
Raymond George Lawry, 4145 Indiana avenue, Chicago, Ill. Structural engineer with Roberts & Schaefer Company.
Rose Margaret McCoy, Manhattan, Kan. Teacher.
Edwin William McCrone, Manhattan, Kan. Junior veterinary student, Kansas State Agricultural College.
Bessie A. Mudge, Manhattan, Kan. Clerk.
Harold Theodore Nielsen, Arlington Farm, Rosslyn, Va. Bureau of plant industry, United States Department of Agriculture.
Ivan L. Nixon, Geological hall, Albany, N. Y. Assistant to state entomologist.
Russell Arthur Oakley, 322 Maryland avenue, N. E., Washington, D. C. Assistant agriculturist, bureau of plant industry, United States Department of Agriculture.
Anna Louella (O'Daniel) Amos, Manhattan, Kan. Housewife.
Clara Pancake, Tully, Kan. Teacher of domestic science.

Celoa Alice (Perry) Hill, Fayette, Mo. Housewife.
Alexis Joseph Reed, 1122 Wesley avenue, Oak Park, Ill. Draftsman with Western Electric Company.
Earl Nathaniel Rodell, Manhattan, Kan. Assistant in printing, Kansas State Agricultural College.
Alice May Ross, Manhattan, Kan. At home.
Alfred Hayes Sanderson, R. F. D. No. 1, Marysville, Kan. Farmer.
Henry August Sidorfsky, 450 Daly street, Los Angeles, Cal. Operating engineer, steam-turbine stations, Edison Electric Company.
Emma Estella (Smith) Burt, Wabaunsee, Kan. Housewife.
Harold Addison Spilman, 426 Leavenworth street, Manhattan, Kan. Clerk.
Lois Stump, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Harry Raymond Thatcher. Died in 1906.
Helen B. Thompson, Manhattan, Kan. Assistant in preparatory department and graduate student, Kansas State Agricultural College.
John Augustus Thompson, 711 Cornell avenue, Kansas City, Kan. Mail-carrier.
Sarah Pauline (Thompson) Manny, Ambridge, Pa. Housewife.
Dovie May (Ulrich) Boys, Goodland, Kan. Housewife.
Harry Nelson Vinall, Crete, Neb. Yard foreman and salesman for Crete Nurseries.
Alberta Suena Voiles, 575 Fremont street, Los Angeles, Cal. Student state normal.
Leon Vincent White, Chillicothe, Ill. Civil engineer.

1904.

Amy Alena Allen, Manhattan, Kan. Assistant in printing department, Kansas State Agricultural College.
Marian (Allen) Buell, Roanoke, Tex. Housewife.
Grace Allingham, Lawrence, Kan. Matron Haskell Institute, and graduate student, Kansas Agricultural College.
James George Arbuthnot, Hubbell, Neb. Special agent Old Line Bankers' Life Insurance Company.
Clinton Jesse Axtell, 174 South Common street, West Lynn, Mass. In testing department of the General Electric Company.
Wallace W. Baird, Clay Center, Kan. Farmer.
Flora Evacelia Ballou, Delphos, Kan. Telephone operator.
William Burgess Banning, R. F. D. No. 2, Lyndon, Kan. Farmer.
Clara Florence Barnhisel, Indian school, Genoa, Neb. Housekeeper.
Frank Lorin Bates, 1221 South University avenue, Ann Arbor, Mich. Law student, University of Michigan.
Louis Blaine Bender, 2595 South Clinton street, Chicago, Ill. Telephone sales engineer, Western Electric Company.
John Jeremiah Biddison, Y. M. C. A. building, Topeka. Telegraph editor, *Daily Herald.*
P. McDonald Biddison, 34 Ruggery building, Columbus, Ohio. Chief engineer, Logan Natural Gas and Fuel Company.
Wallace Newton Birch, 512 West Eighth street, Topeka, Kan. Dairyman.
Otis Neel Blair, box 130, Agricultural College, Mich. Instructor in mechanical engineering, Michigan Agricultural College.

William Armfield Boys, Goodland, Kan. Farmer.
Viva (Brenner) Morrison, Golden, Colo. Housewife.
Thomas Warner Buell, Roanoke, Tex. Farmer.
Clark Stewart Cole, Keats, Kan. Teacher.
Victor L. Cory, 714 Main street, north, McPherson, Kan. Scientific assistant, bureau of plant industry, United States Department of Agriculture.
Jennie Pearl Cottrell, Wabaunsee, Kan. Teacher.
Ella Criss, Grigsby, Kan. Teacher.
Wilma Greene (Cross) Rhodes, 323 Colorado street, Manhattan, Kan. Housewife.
Mary E. Davis, Manhattan, Kan. Record clerk, executive department, Kansas State Agricultural College.
William DeOzro Davis, Marquette, Kan. Electrician for A. T. & S. F. railway.
Charles Sumner Dearborn, Bozeman, Mont. Assistant professor of mechanical engineering, Montana Agricultural College.
Thomas E. Dial, Topeka, Kan. Traveling electrician, A. T. & S. F. railway.
Lawrence A. Doane, 512 West Eighth street, Topeka, Kan. Dairyman.
May Doane, Manhattan, Kan. At home.
Roy Nathan Dorman, North Topeka, Kan. Dairyman and company officer, Boys' Industrial School.
Carl O. Duehn, West Point, N. Y. Cadet United States Military Academy.
Glen Edgar Edgerton, West Point, N. Y. Cadet, United States Military Academy.
Carl G. Elling, experiment station, Santiago de las Vegas, Cuba. Assistant, Department of Animal Industry.
Ralph B. Felton, box 31, R. F. D. No. 6, McPherson, Kan. Farmer.
Ray Bonifield Felton, box 31, R. F. D. No. 6, McPherson, Kan. Farmer.
Elizabeth Finlayson, Summerfield, Kan. Teacher.
Jessie Lois Fitz, R. F. D. No. 5, Baldwin, Kan. Teacher at High Prairie.
Beulah Fleming, Manhattan, Kan. Teacher.
Hattie L. Forsyth, Dwight, Kan. At home.
Louis Cloyd Foster, 427 State street, Emporia, Kan. Electrician with A. T. & S. F. railway.
Edwin Chase Gardner, 4364 Emerald avenue, Chicago, Ill. Cattle-buying department, Swift & Company.
Walter Otis Gray, Twenty-second and Cherry streets, Kansas City, Mo. Student and assistant in chemistry, Kansas City Medical College.
Augusta (Griffing) Harlan, Iloilo, Panay, P. I. Housewife.
John Bernice Griffing, Watonga, Okla. Creamery operator.
Charles Alfred Groves, Edwardsville, Kan. Farmer.
Mary Elizabeth Longfellow Hall, 934 West Seventh street, Los Angeles, Cal. Linen girl in the Hospital of the Good Samaritan.
Harry Vaughn Harlan, Iloilo, Panay, P. I. Instructor of agriculture in normal school.
Mamie Magdalene Hassebroek, Toledo, Iowa. Matron Sac and Fox Indian school.
Arthur Hurschel Helder, 1100 West Fortieth street, Kansas City, Mo. Designer and decorator for Chas. A. Shaeffer Floral Company.

Mamie Eva Helder, Manhattan, Kan. At home.
William A. Hendershot, R. F. D. No. 1, Holyrood, Kan. Teacher.
John Samuel Houser, Wooster, Ohio. Assistant entomologist, Ohio Agricultural Experiment Station.
Evan James, Hutchinson, Kan. Farmer.
John Arthur Johnson.
Helen Kernohan, Beverley, Kan.
Ralph Teeter Kersey, Wamego, Kan. Traveling salesman with Underwood & Underwood.
Charles Franklin Kinman, Auburn, Ala. Assistant horticulturist, Alabama Polytechnic Institute.
Alice M. Loomis, Manhattan, Kan. Assistant in preparatory department, Kansas State agricultural College.
George W. Loomis, R. F. D. No. 4, Girard, Kan. Farmer and stock-raiser.
Sara Grace McCrone, R. F. D. No. 3, Haddam, Kan. At home.
Vera Alta McDonald, Manhattan, Kan. Clerk in post-office, Kansas State Agricultural College.
Kirk P. Mason, Cawker City, Kan. Student Kansas Medical College, Topeka.
Howard David Matthews, 702 Campbell avenue, Schenectady, N. Y. Electrician with General Electric Company.
Vernon Matthews, 174 South Common street, West Lynn, Mass. Computer in turbine research department, General Electric Company.
Chester Arthur Maus, Los Angeles, Cal. Electrician for Santa Fe railway.
Julia Anna Monroe, Whiting, Kan. Graduate student, Kansas State Agricultural College.
Helen Monsch, Manhattan, Kan. Assistant in domestic science, Kansas State Agricultural College.
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Albert Marvin Nash, Golden, Colo. Student Colorado School of Mines.
Virginia Viola Norton, 718 Kearney street, Manhattan, Kan. Teacher.
Mary Lorena (O'Daniel) Scott, Mesilla Park, N. M. Housewife.
Tom Lawrence Pittman, Livingston, Mont. Electrician.
Charles A. Pyle, Manhattan, Kan. Junior veterinary student, Kansas State Agricultural College.
Elvin Rickman, Escondido, Cal. Cement and concrete contractor.
Jennie Florence Ridenour, 512 Moro street, Manhattan, Kan. Dressmaker.
Florence Rebecca Ritchie, Beloit, Kan. Teacher of domestic science, State Industrial School for Girls.
Jesse L. Rogers, Louisburg, Kan. Railway postal clerk.
Flora Rose, Manhattan, Kan. Assistant in domestic science, Kansas State Agricultural College.
Lawrence V. Sanford, R. F. D. No. 2, Oneida, Kan. Farmer and stock-raiser.
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Roy A. Seaton, Manhattan, Kan. Assistant in mathematics and graduate student, Kansas State Agricultural College.

John T. Skinner, Lawrence, Kan. Superintendent of Lawrence Electric-light Company.

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Sallie Maud Smith, Tahlequah, I. T. Primary teacher in Freedmen's National High School.

Arthur S. Stauffer, 325 Park avenue, Beloit, Wis. Erecting engineer with Fairbanks, Morse & Co.

K. Elizabeth Sweet, Manhattan, Kan. Assistant in department of veterinary science and bacteriology and graduate student, Kansas State Agricultural College.

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Henry Thomas, 5014 Linden avenue, station H, Cincinnati, Ohio. In electrical department, Bullock Electric Manufacturing Company.

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Frank Cooper Webb, R. F. D. No. 1, Clearwater, Kan. Farmer.

William Allen Webb, R. F. D. No. 1, Clearwater, Kan. Farmer.

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Orville Blaine Whipple, Grand Junction, Colo. Field horticulturist of Colorado Agricultural Experiment Station.

Emily Jennie (Wiest) Joss, Fairview, Kan. Housewife.

Robert S. Wilson, R. F. D. No. 3, Burden, Kan. Farmer and stock-raiser.

Retta Womer, 1336 Tennessee street, Lawrence, Kan. Junior in pharmacy course, State University.

1905.

Harvey Adams, Manila, P. I. Third lieutenant in constabulary department of the Philippines.

Edward E. Adamson, 133 Front street, Schenectady, N. Y. Electrical engineer.

Elva Veola Akin, Zeandale, Kan. Student Kansas State Normal School.

Pearl Akin, 830 Moro street, Manhattan, Kan. Graduate student, Kansas State Agricultural College.

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Walter Raymond Ballard, College Park, Md. Assistant horticulturist, Maryland Agricultural Experiment Station.

Jessie Mary Ballou, Delphos, Kan. Teacher.

Frank Everett Balmer, Woodston, Kan. Farmer.

Asa William Barnard, 19 Warren street, Lynn, Mass. Mechanical engineer.

Atwood N. H. Beeman, 410 Hall building, Kansas City, Mo. Associate editor, *Missouri and Kansas Farmer.*

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Helen Elizabeth Bottomly, Cedarvale, Kan. At home.
Walter J. Brant, 1815 S. Main street, Wichita, Kan. Contractor and builder.
Harvey A. Burt, 2454 Tracy avenue, Kansas City, Mo. Draftsman with Missouri & Kansas Telephone Company.
Eva Maggy Burtner, Manhattan, Kan. Teacher.
Ray Arthur Carle, 16 Grant street, Turtle Creek, Pa. Engineering apprentice, Westinghouse Electric and Manufacturing Company.
August Belmont Carnahan, 19 Warren street, Lynn, Mass. Steam-turbine tester for General Electric Company.
Albert F. Cassell, Manhattan, Kan. Junior veterinary student, Kansas State Agricultural College.
Joseph Griffith Chitty, Frankfort, Kan. Farmer.
L. Ethel Clemons, Manhattan, Kan. At home.
Mary Margaret Cole, Wakefield, Kan. Teacher.
Andrew D. Colliver, Hays, Kan. Assistant in agriculture, Fort Hays Branch Experiment Station.
Mary P. Colliver, 1126 W. Thirty-first street, Los Angeles, Cal. Clerk for street-railway company.
Gertrude Matilda (Conner) Snodgrass, Manhattan, Kan. Housewife.
Forrest Leslie Courter, Downs, Kan. Farmer.
Bertha Cowles, R. F. D. No. 1, Vinland, Kan. At home.
Charles William Cummings, Wilmore, Kan. Teacher.
Jules Cool Cunningham, Crete, Neb. With Crete Nursery Company.
Mamie Grace Cunningham, Fairview, Okla. Teacher.
Edith Nellie Davis, Manhattan, Kan. At home.
Guy R. Davis, 2424 Benton boulevard, Kansas City, Mo. Real estate.
Minnie Estella Deibler, Formoso, Kan. Teacher.
Ula May Dow, Normal hall, Framingham, Mass. Student in normal school.
Olive B. Dunlap, Glenwood, Ill. Instructor in Glenwood Manual-training School.
Mary Josephine Edwards, R. F. D. No. 2, Emporia, Kan. At home.
William K. Evans, Goodland, Kan. Farmer.
Scott Stuart Fay, 1240 S street, Lincoln, Neb. Graduate student, University of Nebraska.
Lathrop Weaver Fielding, Cleburne, Tex. Electrician for Cleburne Automatic Telephone Company.
Lena Finley, Manhattan, Kan. Teacher in domestic science and preparatory departments, Kansas State Agricultural College.
Frances Walker Fish, Carpenteria, Cal. At home.
Charles Wesley Fryhofer, Manchester, Iowa. Butter inspector for dairy division, United States Department of Agriculture.
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George W. Gasser, Fort Riley, Kan. General secretary army branch, Young Men's Christian Association.
William H. Goodwin, Manhattan, Kan. Graduate student, Kansas State Agricultural College.
Herbert Revere Groome, Manhattan, Kan. Junior veterinary student, Kansas State Agricultural College.

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Otto Albert Hanson, Marquette, Kan. Teacher.

William H. Harold, Wamego, Kan. Superintendent of electric-light company.

Lola May Harris, Manhattan, Kan. Special student, Kansas State Agricultural College.

Henry P. Hess, 259 South Clinton street, Chicago, Ill. Telephone engineer, Western Electric Company.

Frederick Earl Hodgson, 133 Front street, Schenectady, N. Y. Tester for General Electric Company.

Jessie May Hoover, station A, R. F. D. No. 5, Topeka, Kan. Teacher in city schools.

Charles Frederick Johnson, R. F. D. No. 2, Leonardville, Kan. Farmer.

James Henry Johnson, box 186, Las Vegas, N. M. Electrician in signal department of A. T. & S. F. railway.

Winifred Mae Johnson, Solomon Rapids, Kan. At home.

George Henry Kellogg, 712 Leavenworth street, Manhattan, Kan. Teacher.

Mildred I. Kirkwood, Marysville, Kan. Teacher.

Nina H. Kirkwood, Marysville, Kan. Teacher.

George Otto Kramer, Wakefield, Kan. Herdsman.

William C. Lane, 5014 Linden street, station H, Cincinnati, Ohio. Student apprentice in the electrical department, Allis-Chalmers Company.

Daniel Andrew Logan, McFarland, Kan. Clerk in roadmaster's office.

Edward Logan, Havensville, Kan. Hardware and furniture merchant.

Rhoda C. McCartney, Oakes, N. Dak. Primary teacher.

Nellie Reeder (McCoy) Cover, Winslow, Ariz. Housewife.

Freide E. Marty, Merriam, Kan. Teacher.

Richard Meyer, Riley, Kan. Farmer.

Mary Mudge, R. F. D. No. 4, Manhattan, Kan. Graduate student, Kansas State Agricultural College.

Lewis J. Munger, Hollis, Kan. Farmer.

Rachel Gertrude Nicholson, Chamberlain, S. Dak. Baker, Indian school.

Jens Nygard, Vesper, Kan. Farmer.

Nell (Paulsen) Pickett, 1240 S street, Lincoln, Neb. Housewife.

Leonard Marion Peairs, Manhattan, Kan. Graduate student, Kansas State Agricultural College.

Luther B. Pickett, 1140 S street, Lincoln, Neb. Freight clerk, Burlington freight-house.

Charles Holcomb Popenoe, R. F. D. No. 2, Topeka, Kan. Entomological student.

Fanny E. Reynolds, Manhattan, Kan. Instructor in preparatory department, Kansas State Agricultural College.

Arthur J. Rhodes, Chillicothe, Ill. Civil engineer, A. T. & S. F. railway.

Eva May (Rickman) Gilbert, Woodruff, Kan. Housewife.

Kate L. Robertson, Coffeyville, Kan. Teacher in city schools.

Garfield Shirley, Perry, Kan. Farmer.

Walter Emory Smith, 1518 Larimer street, Denver, Colo. Carpenter.

Crete Spencer, Manhattan, Kan. Stenographer in animal husbandry department and graduate student, Kansas State Agricultural College.

William Wesley Stanfield, 411 Jackson street, Topeka, Kan. Associate editor, *The Farmers Advocate.*

Blanche Stevens, Manhattan, Kan. Graduate student, Kansas State Agricultural College.

Effie L. Stewart, 308 North Twelfth street, Humboldt, Kan. At home.

Mary Catherine Strite, Kanopolis, Kan. Teacher.

Jessie A. Sweet, Manhattan, Kan. Teacher at Glasco; graduate student, Kansas State Agricultural College.

Charles Bartholow Swift, Williamsburg, Kan. Teller Williamsburg State Bank.

Charles L. Thompson, Etiwanda, Cal. Fruit-grower.

John Bert Thompson, Etiwanda, Cal. Fruit-grower.

Roger S. Thompson, 1334 Oak street, Kansas City, Mo. Draftsman in construction department, S. & S. Company.

Claude B. Thummel, West Point, N. Y. Cadet United States Military Academy.

Alonzo F. Turner, Norton, Kan. Agriculturist Norton county high school, and superintendent of county experiment farm.

Grace E. Umberger, 304 Honore street, Chicago, Ill. Training for nurse in Illinois Training-school for Nurses.

Harry Umberger, 1830 G street, N. W., Washington, D. C. Scientific assistant, bureau of soils, United States Department of Agriculture.

Fred Van Dorp, R. F. D. No. 8, station C, Topeka, Kan. Farmer.

Rebecca Rees Washington, Manhattan, Kan. At home.

Earl Wheeler, Washington barracks, Washington, D. C. Electrical engineer and instructor, engineer school, United States army.

Inez (Wheeler) Westgate, 913 I street, N. W., Washington, D. C. Housewife.

Clarence H. White, R. F. D. No. 3, Burlington, Kan. Farmer and stockman.

Wayne White.

William J. Wilkinson, 1462 Seventh street, Oakland, Cal. Architect.

Frederick W. Wilson, Phœnix, Ariz. Professor of animal husbandry, Arizona Experiment Station, University of Arizona; graduate student, Kansas State Agricultural College.

George Heber Wilson, R. F. D. No. 8, Winfield, Kan. Farmer and stockraiser.

George Wolf, 49 Warren avenue, Chicago, Ill. Telephone engineer.

Grace (Enfield) Wood, Manhattan, Kan. Graduate student and teacher in preparatory and music departments, Kansas State Agricultural College.

Jay G. Worswick, constabulary school, Manila, P. I. Third lieutenant in constabulary department of the Philippines.

Summary.

The number of graduates up to 1906 is 1130, of whom 427 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of bachelor of arts. Since 1877, all have received the degree of bachelor of science, after a four-year course in the sciences, with good English training.

Of the 703 men, 37 are dead, and the remainder are reported in the following occupations:

Farmers and stock-raisers	139
Farm foremen	4
Fruit-growers, nurserymen, gardeners, and florists	20
Creamerymen	8
Superintendent of agricultural experiment station	1
Professors and assistants in experiment stations and agricultural colleges	32
In United States Department of Agriculture	31
Teachers and employees in Indian service	7
Mechanics	31
Manufacturers	7
Miners	5
Contractors, architects, and builders	12
Draftsmen	9
Civil, electrical, mining and mechanical engineers	35
Telephone and telegraph operators and managers	4
Veterinary surgeons	6
Postmasters and assistants	5
In military and naval service	12
Cadets, United States Military Academy	3
Regents Kansas State Agricultural College	2
Professors and instructors in colleges	21
Superintendents and teachers in public schools	25
Graduate and special students, Kansas State Agricultural College	14
Students in other institutions	17
Ministers, missionaries, and secretaries of Y. M. C. A	15
Journalists and editors	22
Merchants	39
Commercial travelers	6
Agents	12
Clerks, bookkeepers, and stenographers	24
Officials and managers	28
In United States civil service	9
Physicians, students of medicine, chemists, druggists, dentists	35
Lawyers	22
District judges	2
County and state officials	12
Bankers and cashiers	10
Hotel proprietor	1
Lecturer	1
Actor	1
Unknown	9
Total	698
In two occupations	32
	666

Summary—*Concluded.*

Of the 427 women, 21 are dead, and the remainder are occupied as follows:

Housewives	186
Teachers of domestic science and domestic art, and dietitians	19
Nurses	5
Physicians and druggists	2
In United States Department of Agriculture	1
Secretary of Kansas State Agricultural College	1
Librarians	3
Professors and assistants in agricultural colleges and experiment stations	15
Professors and instructors in colleges	9
Teachers of art and music	4
Principals and teachers in public schools	64
Kindergarten teacher	1
Graduate and special students, Kansas State Agricultural College	14
Students in other institutions	16
Dressmakers	2
Assistant postmaster	1
Bookkeepers, stenographers, and clerks	19
Lecturers	3
Journalists	2
Merchant	1
Telegraph operator and telephone exchange	2
At home	41
Unknown	5
Total	416
In two occupations	10
	406

Advanced Degrees

Granted to persons not holding undergraduate degrees from this College.

1877.

John Fraser, LL. D. (Dead.)

1883.

John D. Walters, M. S., Manhattan, Kan. Professor of architecture and drawing, Kansas State Agricultural College.

1894.

Arnold Emch, M. S., Solothurn, Switzerland. Professor of mathematics, cantonal college.

1897.

Oscar E. Olin, M. A., Akron, Ohio. Professor of economics and history, and instructor in philosophy, Buchtel College.

1898.

Elam Bartholomew, M. S., Stockton, Kan. Farmer and botanist.

Herbert F. Roberts, M. S., Manhattan, Kan. Professor of botany, Kansas State Agricultural College.

George E. Rose, M. S., Rosedale, Kan. Superintendent of city schools.

1902.

George Fayette Thompson, M. S. Died in 1906.

1904.

Alice (Rupp) Wishard, M. A., Clinton, Ind. Housewife.

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